



prometeia



CONFINDUSTRIA BERGAMO

The oil & gas valve industry in Italy

BUSINESS STRUCTURE, PERFORMANCE AND RECENT TRENDS

Edition 2019

Bergamo, May 21th 2019

- **Executive Summary**
- Business structure
- Italy's role in the European oil & gas valve industry
- International trade and Italy's export performance
- International financial benchmarking...and other insights

Executive summary

1. Thanks to its constant innovation and high export propensity, the Italian industry of taps and valves represents a historical sector of specialization of Italian mechanics, as well as a flagship of the whole Made in Italy market proposition. Within this macro business, 40% of the turnover is generated by companies operating in **the Oil & Gas (O&G) valves industry**, most of which are located within a **100 km radius off the city of Bergamo**: the beating heart of a cluster that goes far beyond the boundaries of the province, and successfully embraces all the phases of the production cycle. All in all, the sector accounts for approx. **290 companies** (more than 2/3 of them located in Lombardy), employing just under **10.000 workers** and generating an overall turnover of € 3.2 blns in 2017 (of which, 90%+ generated by exports).
2. The Italian O&G valve industry retains a **leading position in the 9 € blns European market**: indeed, **one out of three euro of O&G valves produced in EU is Made in Italy**, placing the country first in the European ranking, followed by Germany (27%) and Uk (8%). The Italian leadership reflects both strong specialization in the ball valves (1 over 1.9 € blns produced in the EU) and its components (1.2 over 3.0 € blns produced in the EU). Anyway, Italian companies place themselves at the top of the ranking even in niche products segments such as gate and butterfly valves.
3. The sectoral production base in recent years suffered from the downward trend of the **crude oil price**, and the consequent reduction in **investments** by the Oil & Gas giants. In Italy there are nowadays twenty companies and about one thousand employees less than there were in 2015. The selection experienced in the last years reflects in the economic and financial performance of companies, as revealed by a specific analysis performed over a sample of 149 companies from Italy, Europe, China, Japan-Korea and Other Asia. On average, the turnover of the so-selected sample experienced a **1.5% CAGR decrease between 2014 and 2017**: in detail, significant contractions involved companies operating in the Advanced economies.

Executive summary

4. The 2014- 2017 challenging period for the O&G valves industry clearly emerge when the analysis shifts to margins, affected by a steep contraction. Global **EBITDA** (as a percentage of total revenue) stood at 7% on average in 2017, 8 percentage points below the level reached in 2014: the downturn was particularly severe for the **Western European cluster (-9.6 p.c. points)**. The **Italian** O&G valves companies weathered the deteriorating business conditions better than their European peers, reporting a 6 p.c. point decline in EBITDA margin in the same period.
5. In a global trade context characterized by the ascent of Chinese producers, **Italy place third among top World exporters of O&G valves**, competing with Germany for the second place in ranking. Western Europe and MENA are the two top destination areas for Italian exports, overall accounting for 27% of foreign sales, followed by Asia and NAFTA (17% and 15%, respectively).
6. Trade data highlight the **double digit growth of Chinese export (+12%)**, and the dynamism of flows originating from **Germany (+7%)**, the only Advanced economy that gained market share against competitors. Regarding Italy, in 61 of the top-100 markets for O&G valves (absorbing almost 70% of ITA sales) exports grew at least in line with imports. Nonetheless, on average, **the Italian producers proved able to catch only half of the potential opportunities generated by a global demand growing at twice the rate of the overall Italian export (+2.8%)**. The relative underperformance of Italian companies abroad has mostly to do with a **sales geographical composition issue**. Italian industry is indeed overexposed towards markets that underperformed against their peers in 2018 and, at the same time, shows a sub-optimal presence in what configured as the world's most dynamic regions.
7. Following the early recovery signal in 2017, **the global O&G valves trade experienced a 6% expansion in 2018**, on the back of the strong imports growth rate in the NAFTA (+14%) and, to a relatively lower extent, in the Western ...

Executive summary

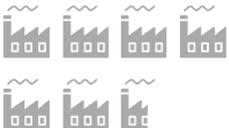
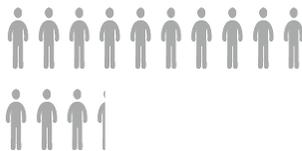
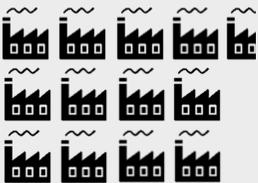
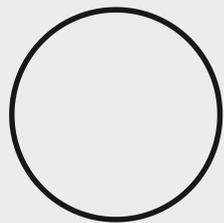
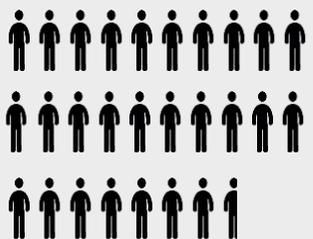
... European and Asian markets. On the opposite, flows directed to the **MENA** confirmed the downward trend observed in 2017, declining 4% on annual basis.

8. The **outlook for the O&G industry is closely tied to developments in the oil market**. Thanks to a combination of improving global demand and OPEC supply cuts, both in 2017 (+21%) and in 2018 (+29%) the Brent crude oil recovered most of the ground lost in the aftermath of the 2014 rout. The current trading at around 70 US\$/b has a forecast of \$66 in 2019 and \$65 in 2020. The global oil extraction investment flows are likely to further shift away from the Middle East region, towards the most active producing regions (Americas and Asia). Within this framework, a further growth in **global O&G extraction investments** can be expected (3.5% CAGR between 2019 and 2020), albeit at a **slower pace compared to the high rate observed in the past two years**.
9. According to the **patent analysis**, with certified inventions used as a proxy for innovation, Italy holds the fourth place among the most innovative countries and showed a good degree of vitality over the last few years. By measuring the number of citations received from the stock of patents held by a country ("**innovative scope**"), **Italian companies hold the third place**, far superior not only with respect to their European counterparts, but also to a technological superpower such as the United States. **The province of Bergamo ranks first**, due to the very high number of citations received, which indicates the quality and the innovative capacity of the companies operating throughout its supply chain.
10. The flair for innovation of the Italian O&G valves companies seems hardly replicable by competitors, at least in the short term. Within this framework, **continuing investments in research**, in order to keep the competitors far from bridging this gap, **and choosing the right markets to focus on, are the two base strategy for the Italian companies**.

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The Italian industry of tapes and valves

A core sector of Made in Italy IM&E industry (2017)

		Number of enterprises	Production value (€ blns)	Number of employees
	Oil & Gas valves	 287	 3,2	 9.900-
	Oth. industrial valves*	 666	 3,9	 13.200-
	Household taps	 325	 1,2	 4.800+
TOTAL	Tapes & Valves	 1278	 8,4	 27.850-

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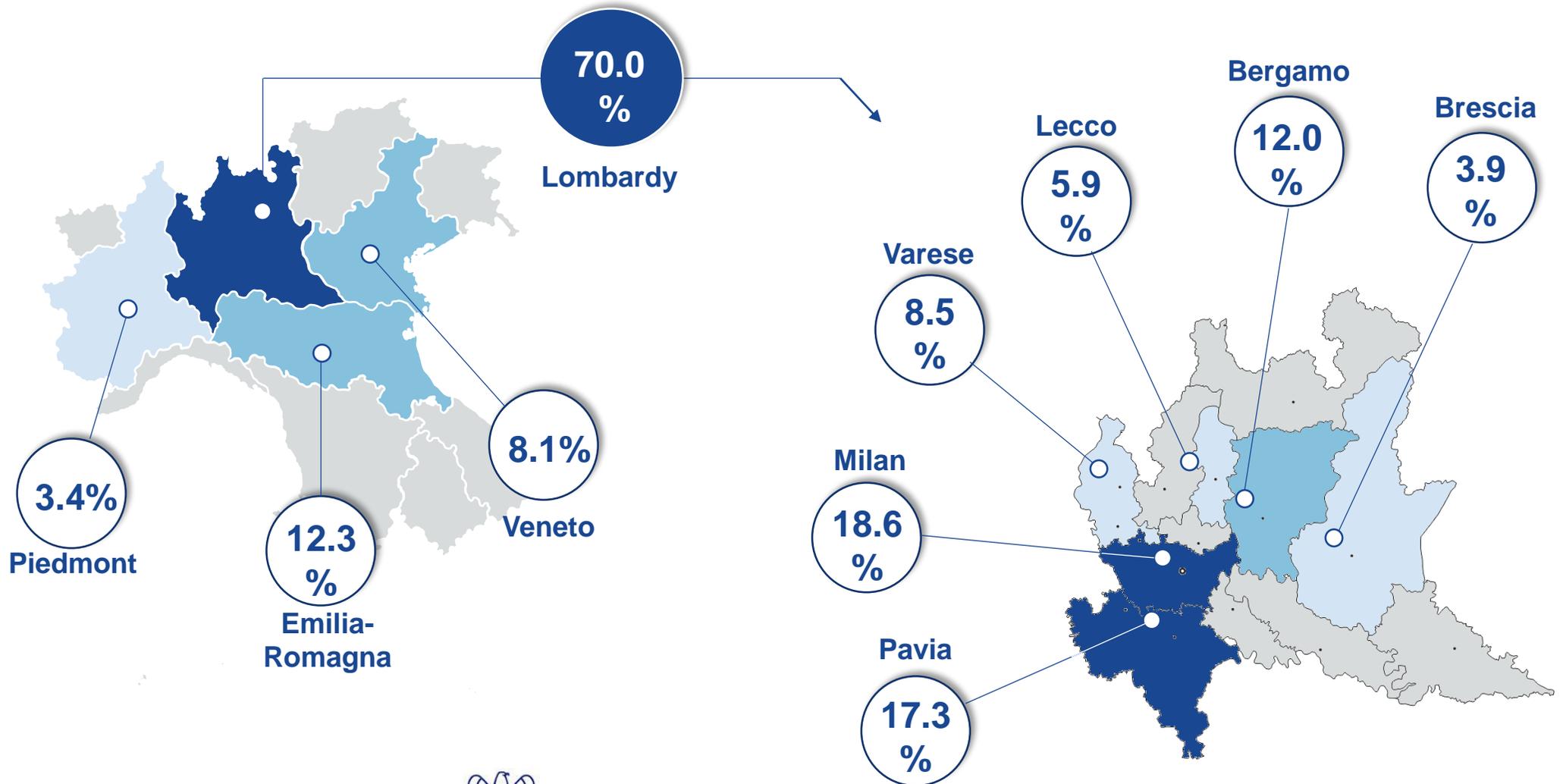
* Hydraulic valves, valves for food & beverage industry, valves for pharmaceutical industry, etc.

Source: Prometeia's calculation on ISTAT data and Companies balance sheets

The O&G valve industry in Italy

50%- of the Italian production concentrated in Bergamo, Milan and Pavia provinces

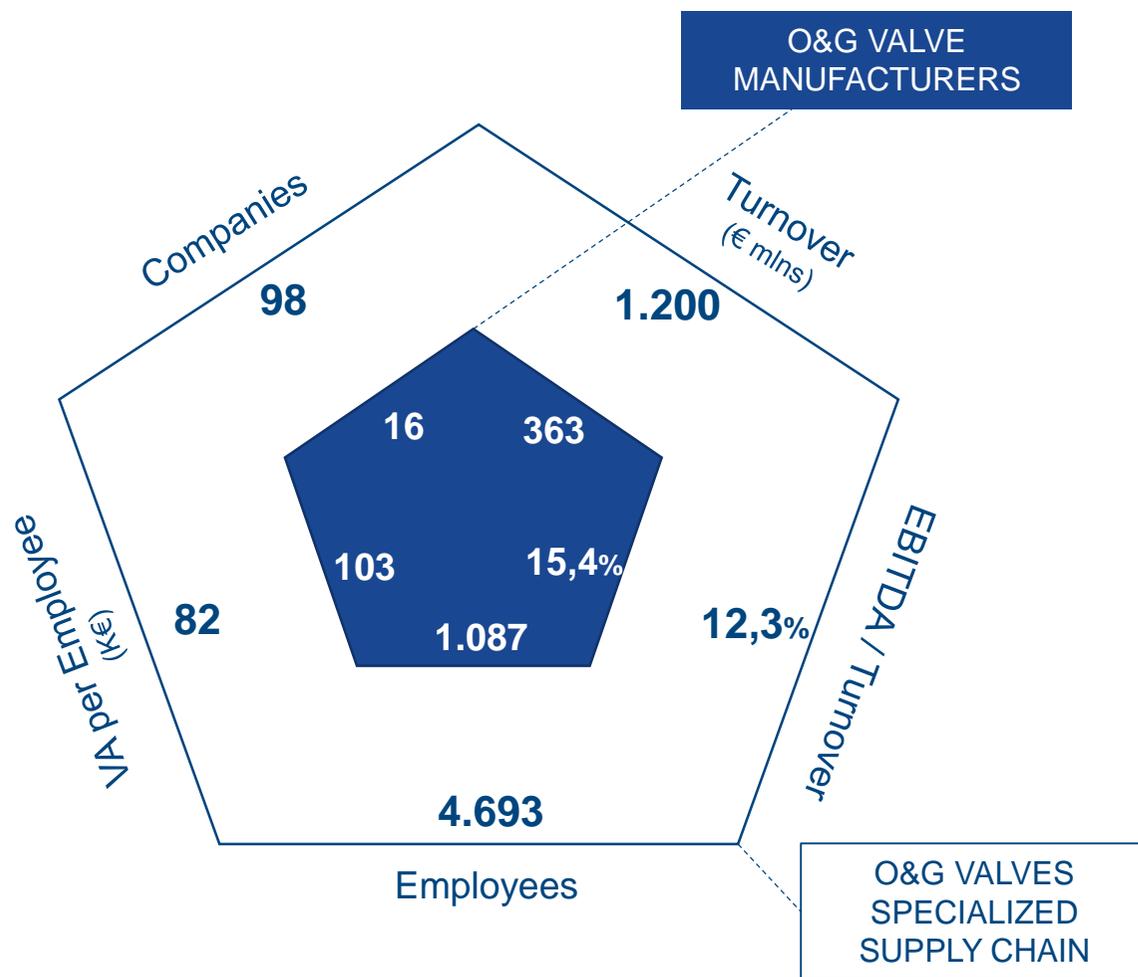
The map of territorial specialization: % share of the Italian production value (2017)



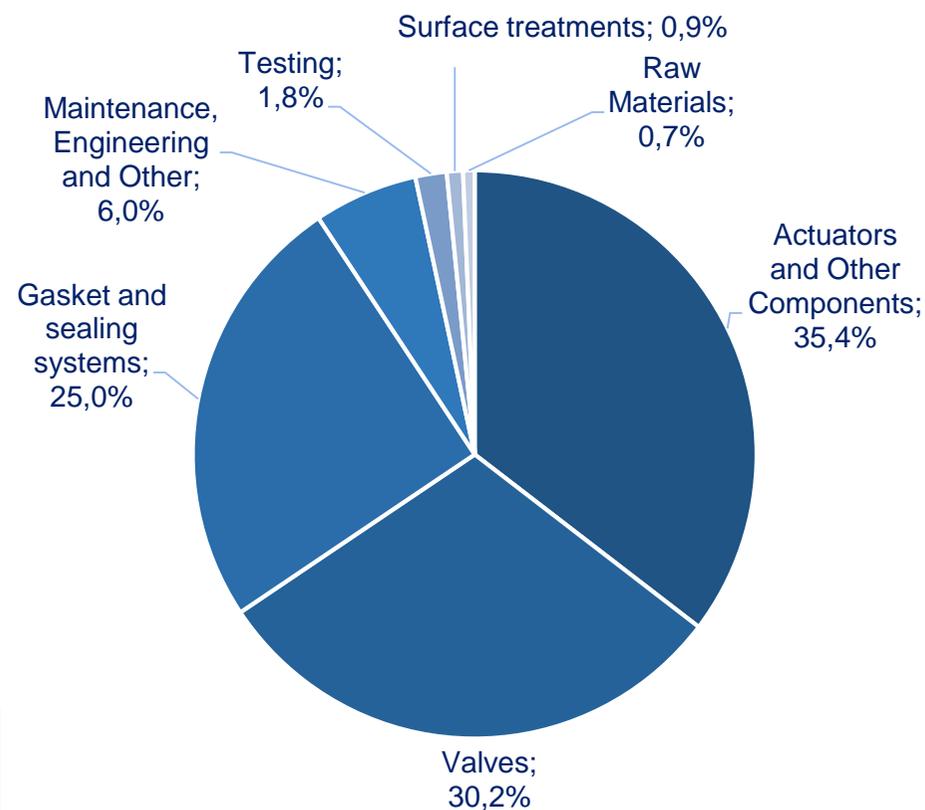
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Focus on Bergamo O&G valve industry

Manufacturers rely on a larger specialized supply chain



Supply Chain Main Products
% of turnover



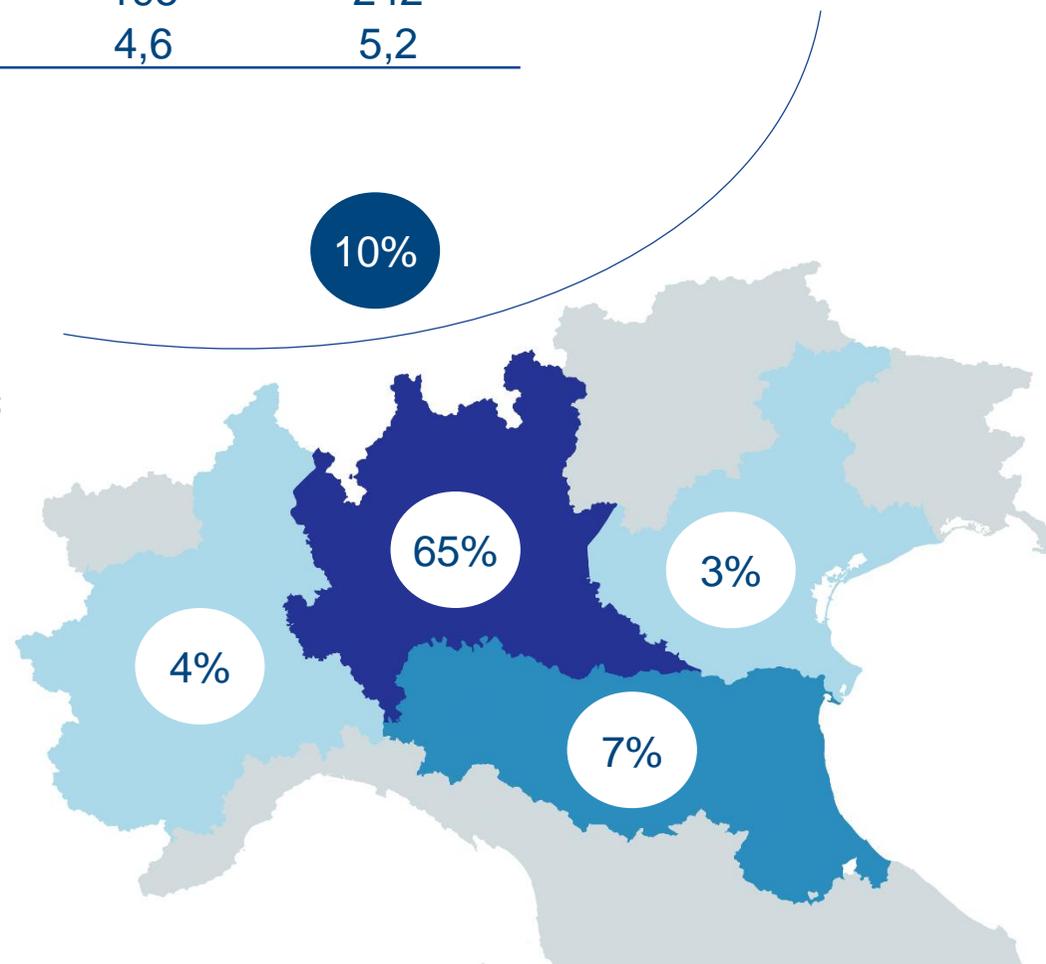
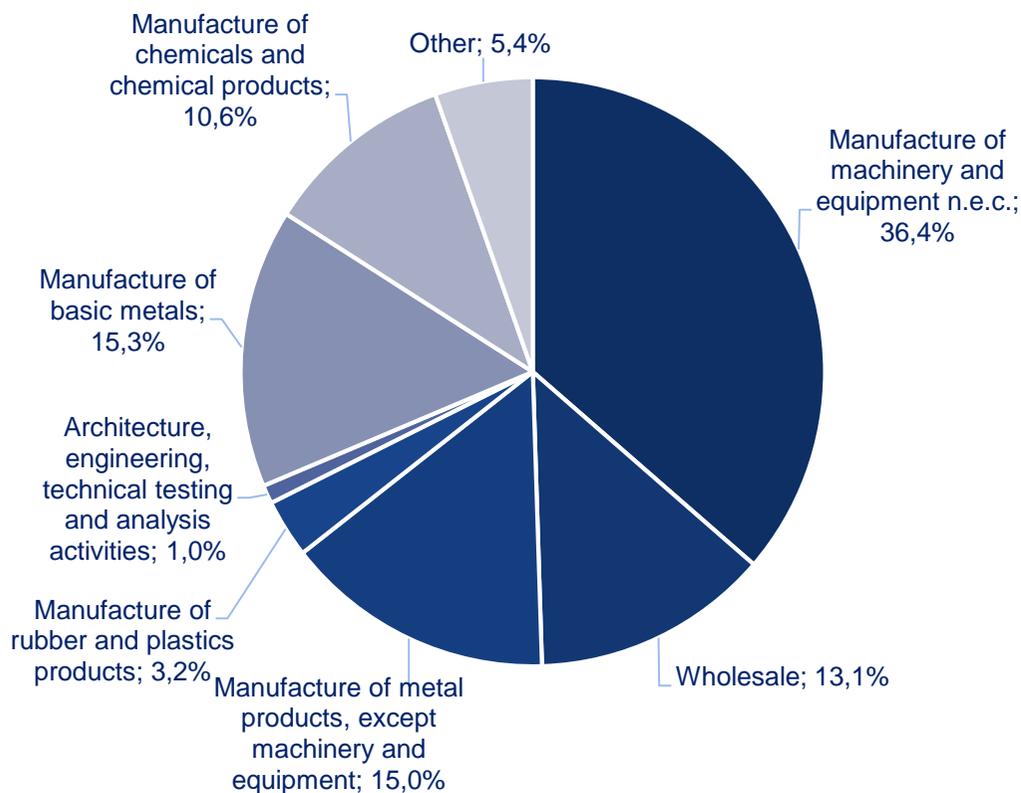
Source: Confindustria Bergamo's calculation on Bureau van Dick – AIDA (2017) data

Industrial Valve Summit 2017-2019 editions

Exhibitors' activities and origin

Exhibitors	2017	2019
No.	195	242
Production Value (bln€)	4,6	5,2

NACE % Production Value



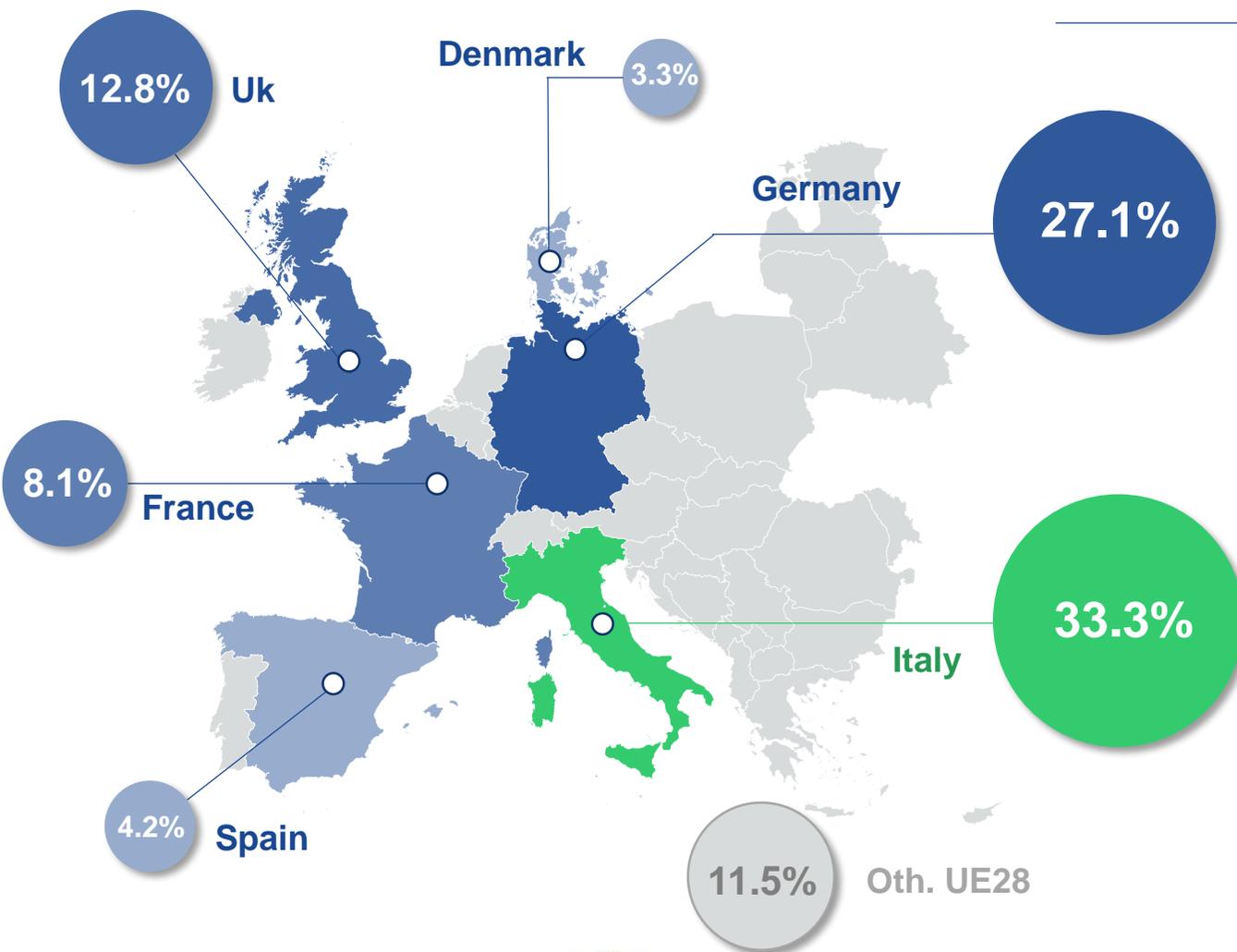
Source: Confindustria Bergamo's calculation on Bureau van Dick – AIDA (2017) data

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O&G valve industry in Europe

Italy is the European leading manufacturer of oil & gas valves

The main European production countries: sold production value*
% share on total, €, 2017



 total UE28
8.93 € blns

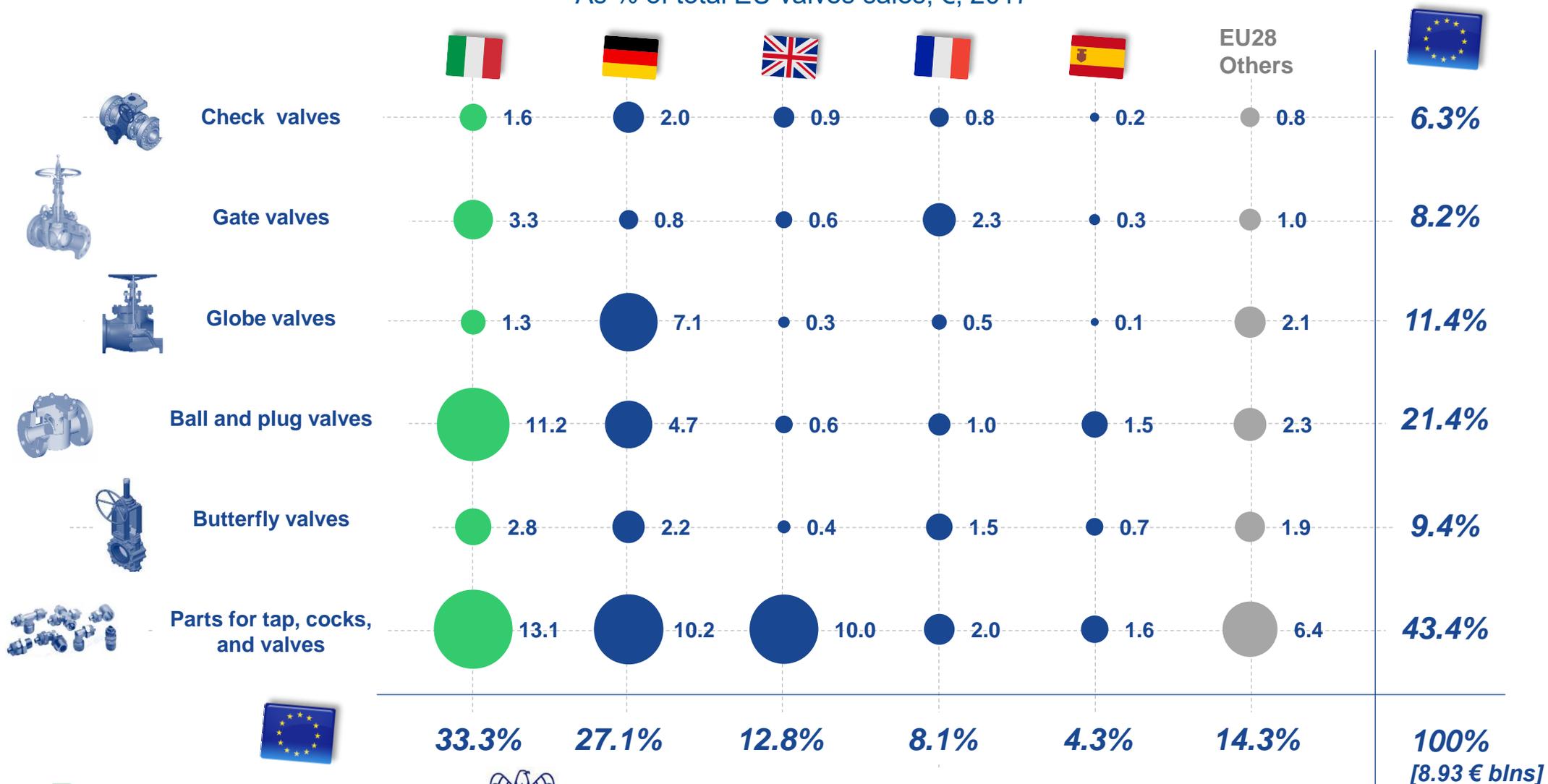
* Production value generated at national production plants

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EU28 valves production by type (1/2)

Italy leads in Parts, Ball and Plug, Gates and Butterfly valves production

The main European production countries: sold production value by country and product*
As % of total EU valves sales, €, 2017

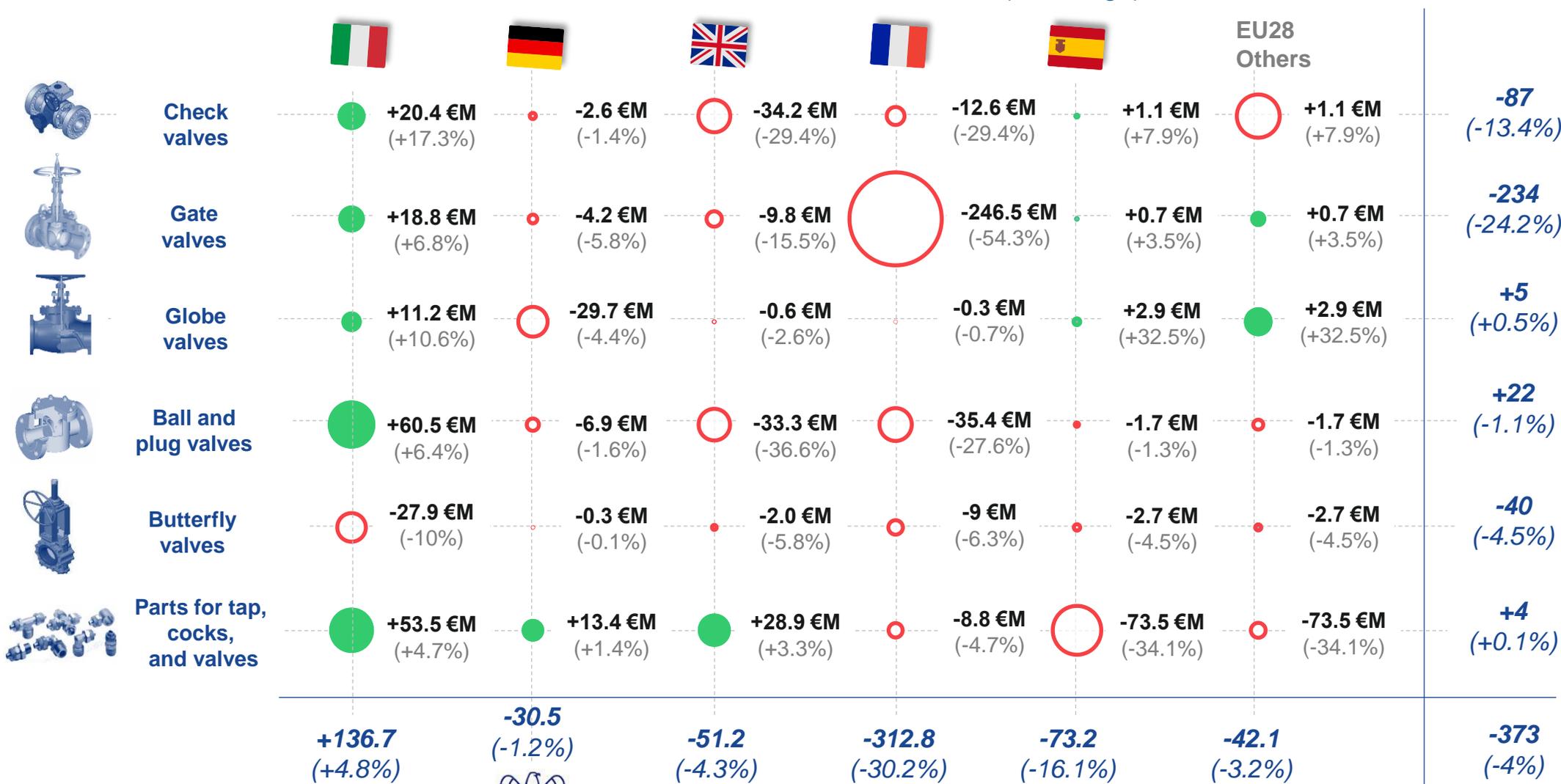


Source: Prometeia's calculation on EUROSTAT DATA

EU28 valves production by type (2/2)

Italy leads in Parts, Ball and Plug, Gates and Butterfly valves production

The main European production countries: sold production value by country and product*
EU valves sales, Δ 2017-2016 € mlns and (% change)



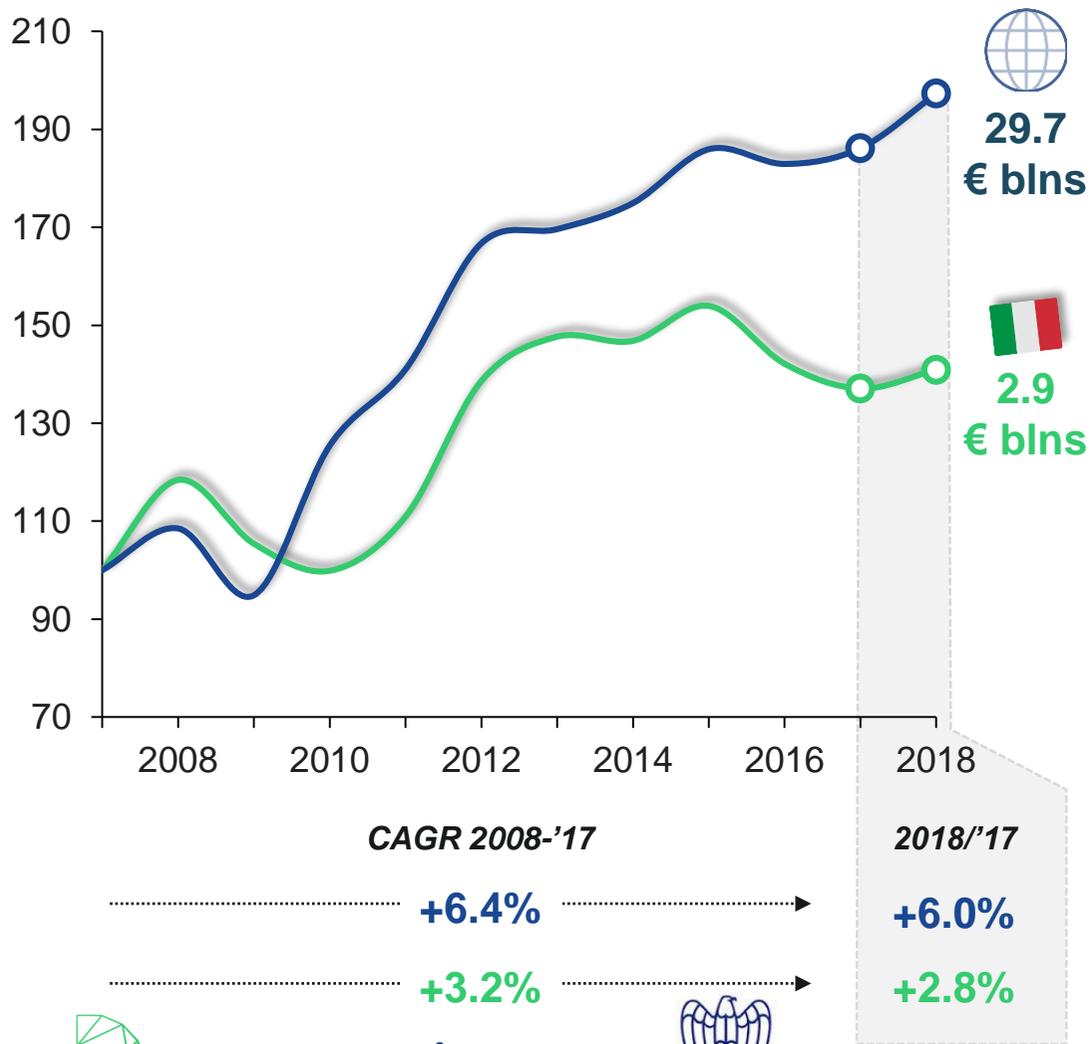
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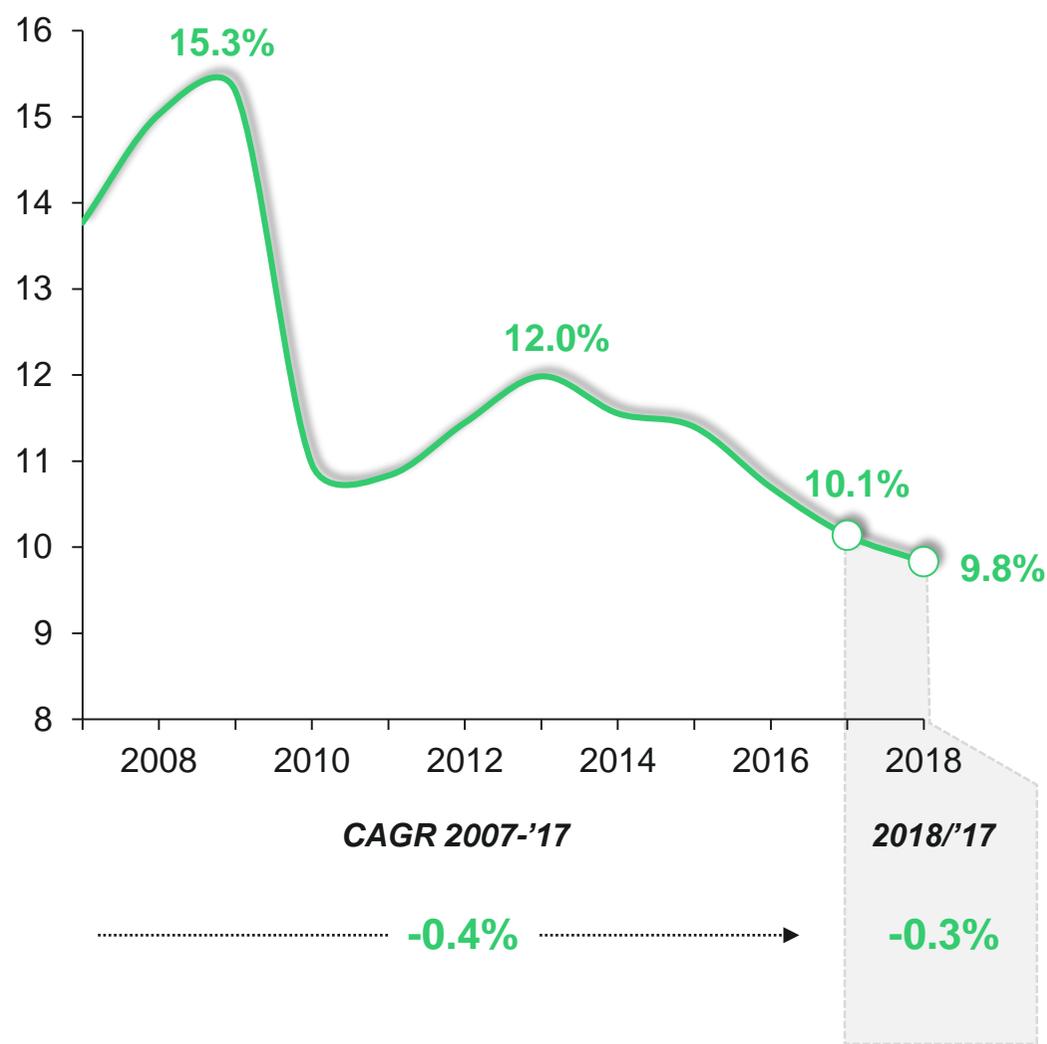
O&G valve international trade (1/2)

World imports and Italy's share

World imports and Italian exports of O&G valves
2007=100, €



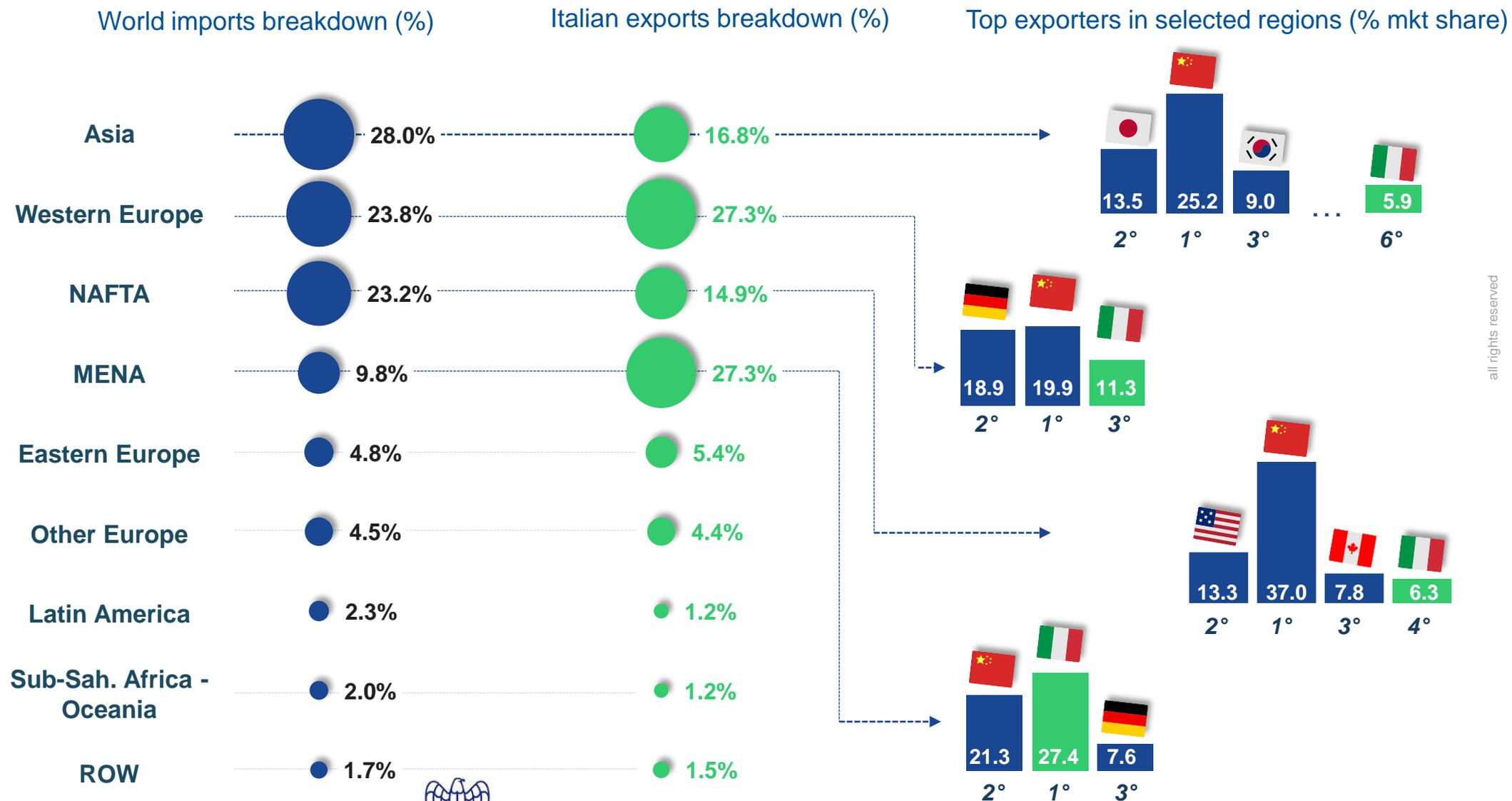
Italy's share of World O&G valves market
ITA export as % of World imports, €



O&G valve international trade (2/2)

The prominence of Italian valves in MENA markets

Geographical Framework (in €)



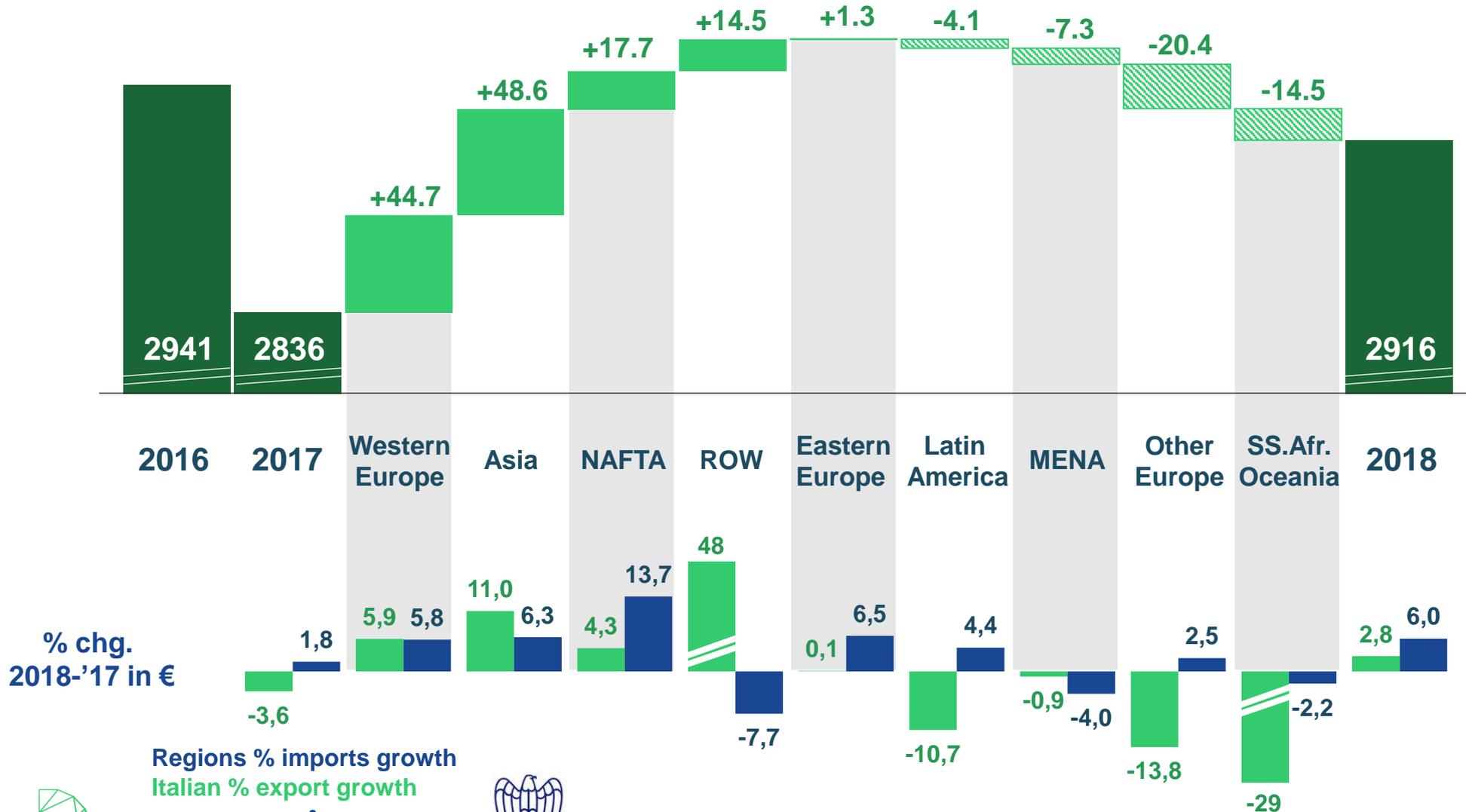
International trade & Italian export in 2018 (1/2)

Western Europe, Asia accounted for the bulk of 2018 overall Italian export growth



Italian export of O&G valves

Regions contribution to Italian export growth, Δ 2018-'17 in € mlns



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International trade & Italian export in 2018 (2/2)

Italian flows matched demand growth in 61 markets (28+33) over 100

Italian exports*
% growth 2018-'17, in €

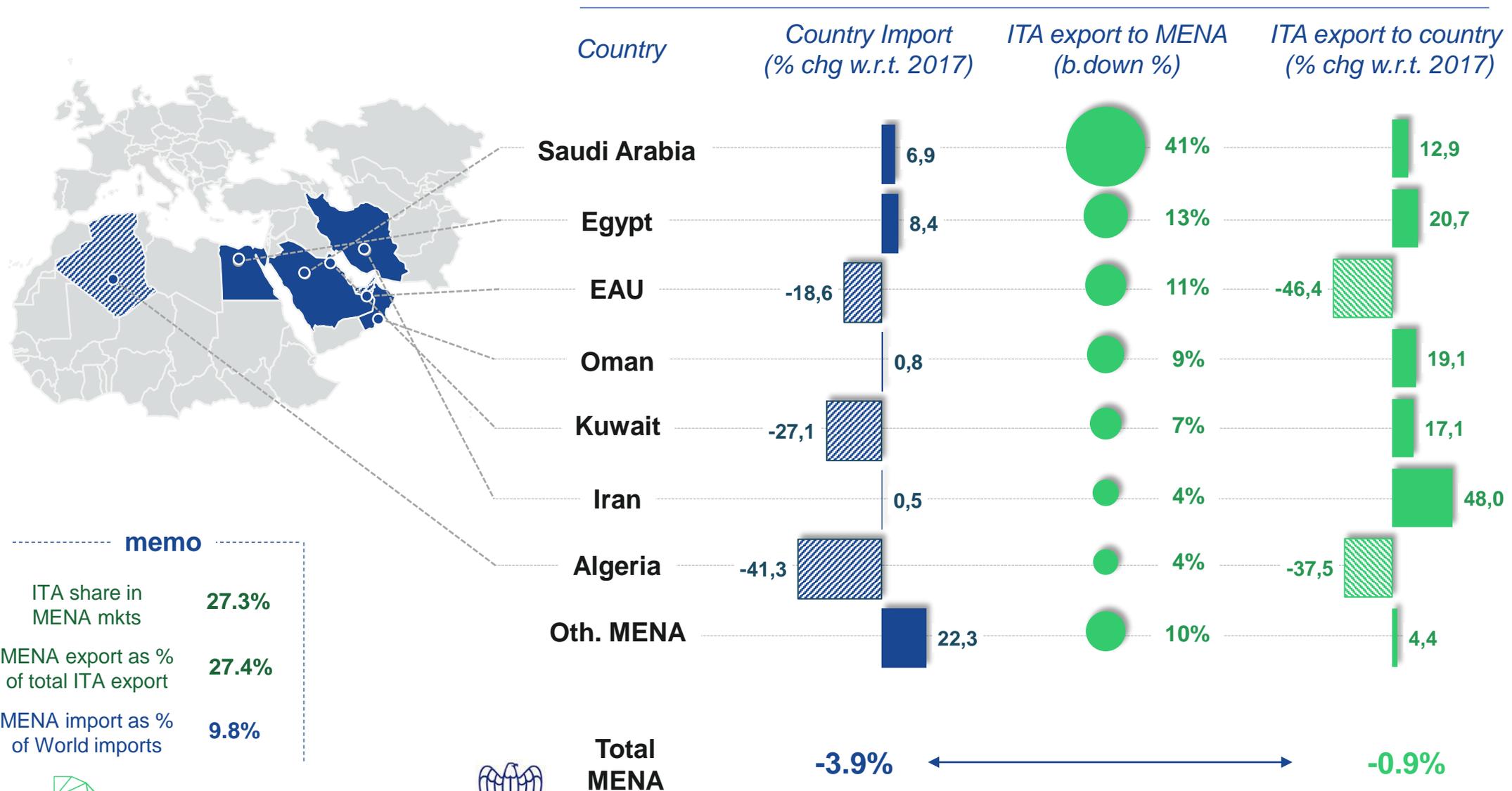


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Italian export in the MENA markets

Significant growth in the top markets, with the notable exception of EAU

Italian exports to MENA markets, 2018 (€)



memo

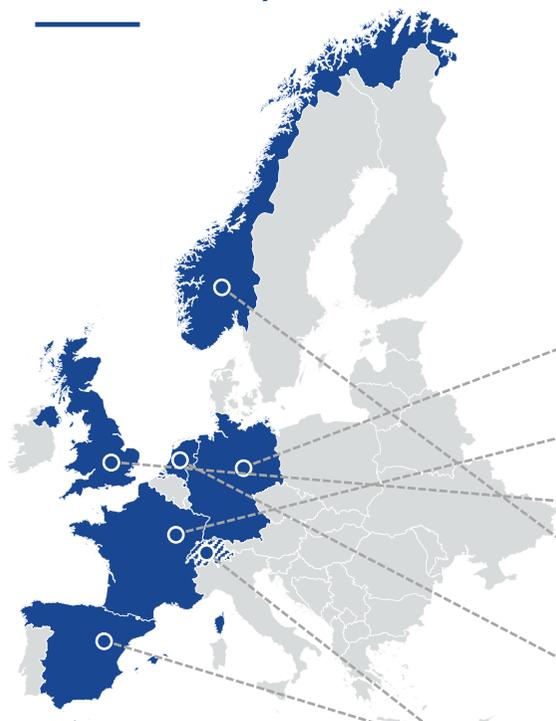
ITA share in MENA mkts **27.3%**
 MENA export as % of total ITA export **27.4%**
 MENA import as % of World imports **9.8%**



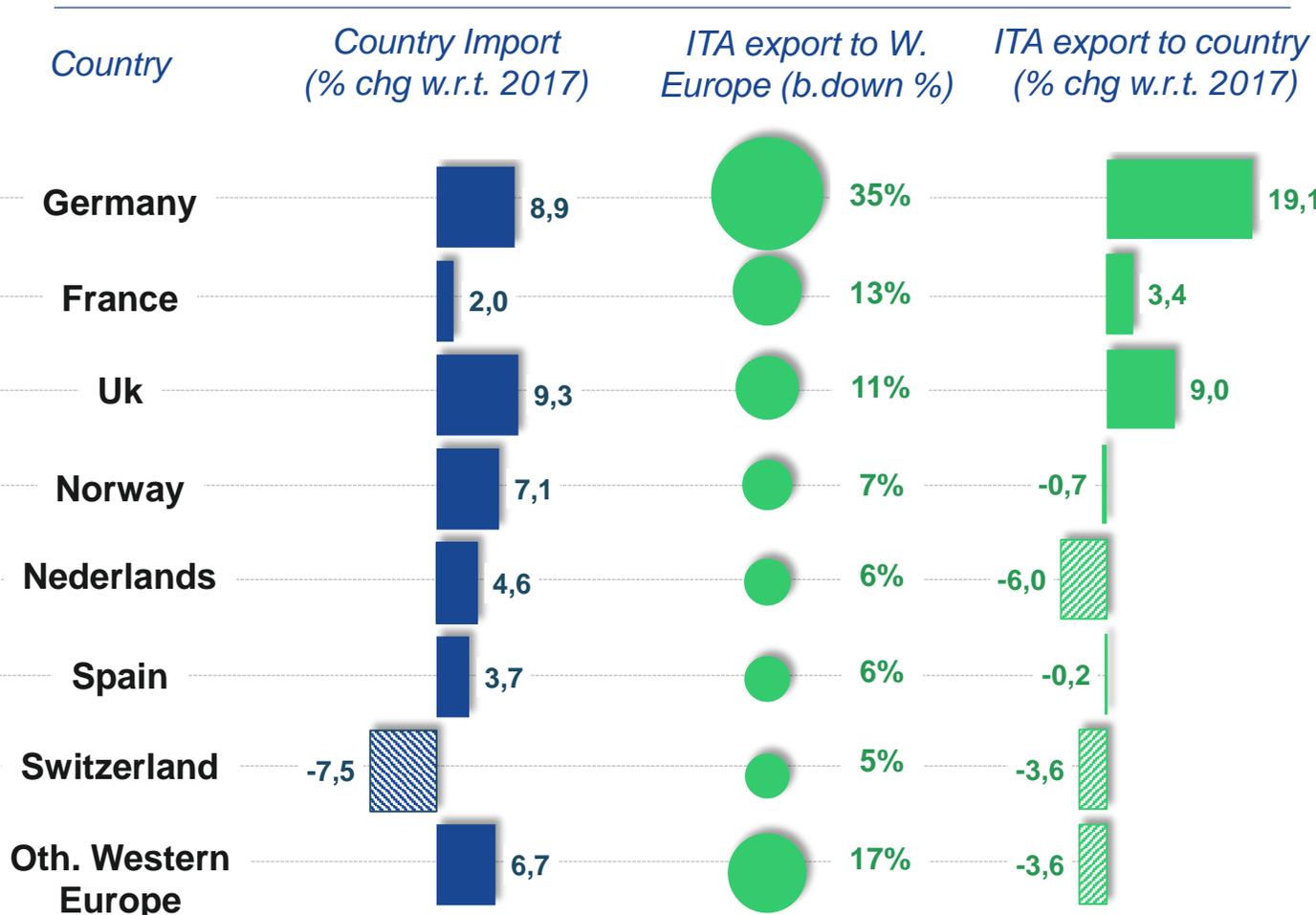
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Italian export in the Western European markets

A relevant performance in the top-3 markets



Italian exports to Western European markets, 2018 (€)



memo

ITA share in W.EU. mkts **11.3%**
 W.EU. export as % of total ITA export **27.3%**
 W.EU. import as % of World imports **22.4%**

Total Western Europe **+5.8%** ← → **+5.9%**

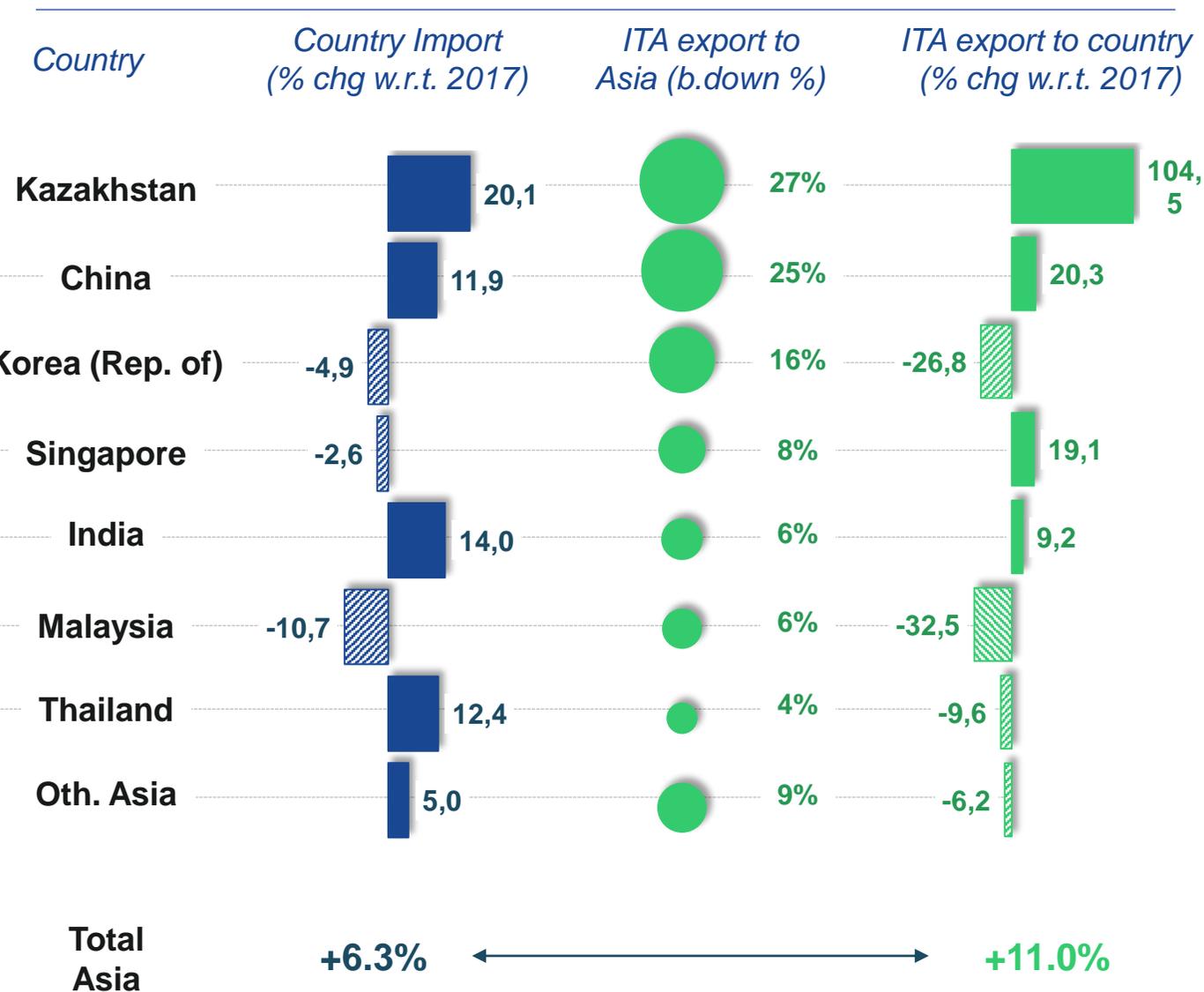


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Italian export in the Asian markets

Kazakhstan drives the growth of italian valves flows to Asia

Italian exports to Asian markets, 2018 (€)



memo

ITA share in Asian mkts **5.9%**
 Asian export as % of total ITA export **16.8%**
 Asian import as % of World imports **28.0%**



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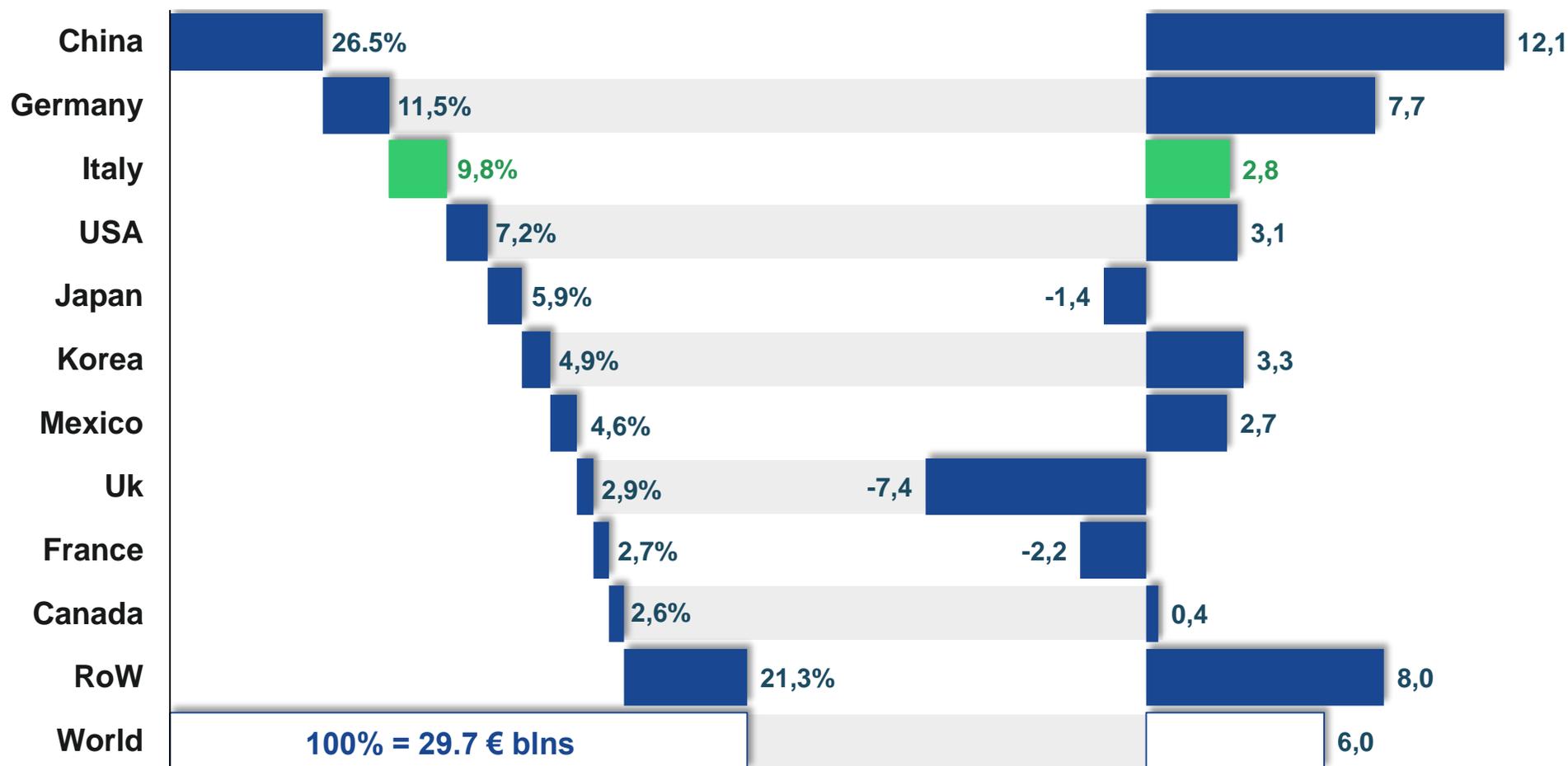
World top exporters of O&G valves

Top-3 exporters account for almost 50% of World trade

World top exporters of O&G valves

Market share as % of total World export, in €, 2018

% chg. 2018/'17, in €

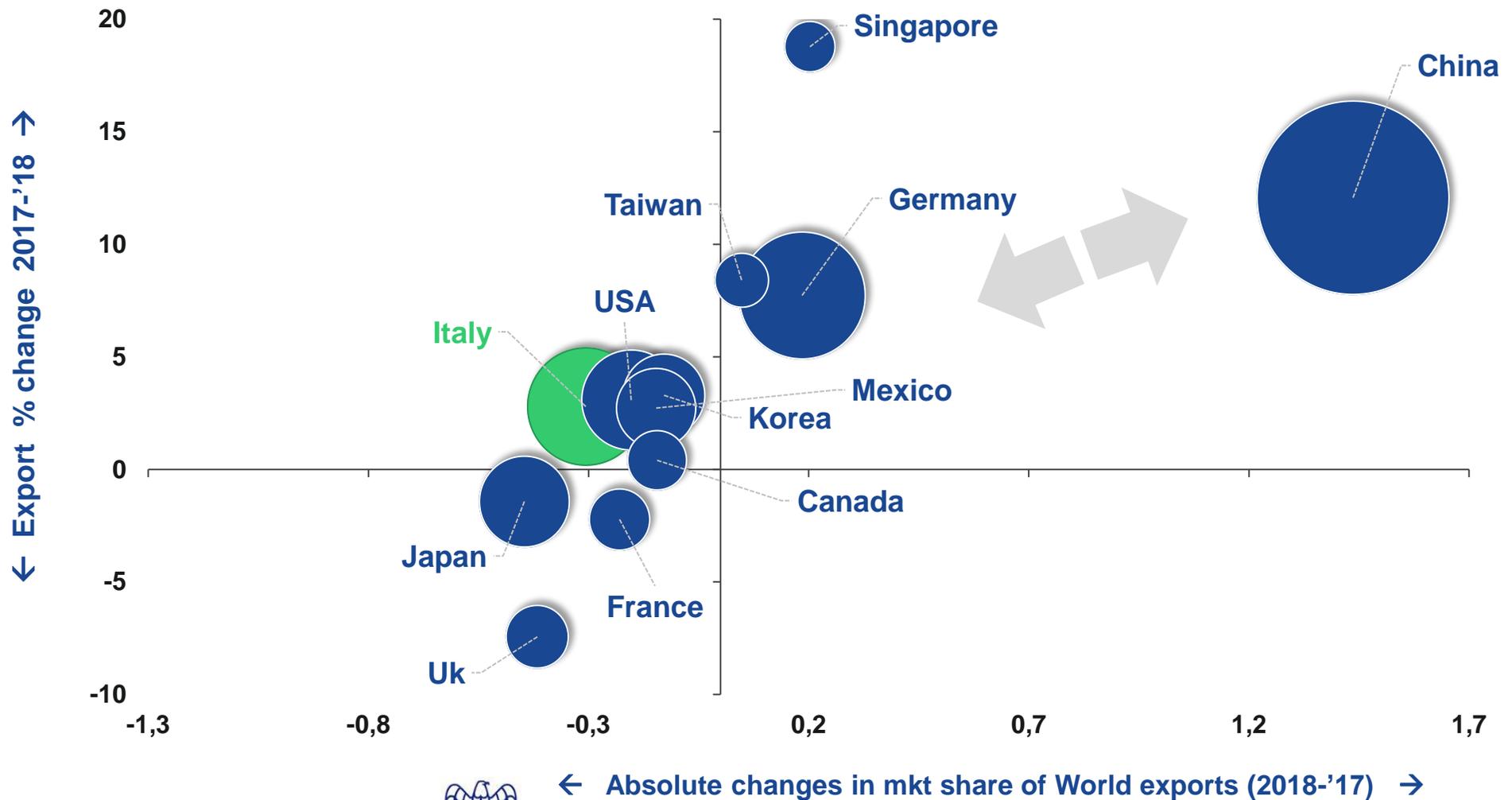


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Italy's and its competitors' performance in 2018

China continue to expand, Germany keeps on gaining share

Export growth and world market shares by world leading exporters
2018-'17, in €

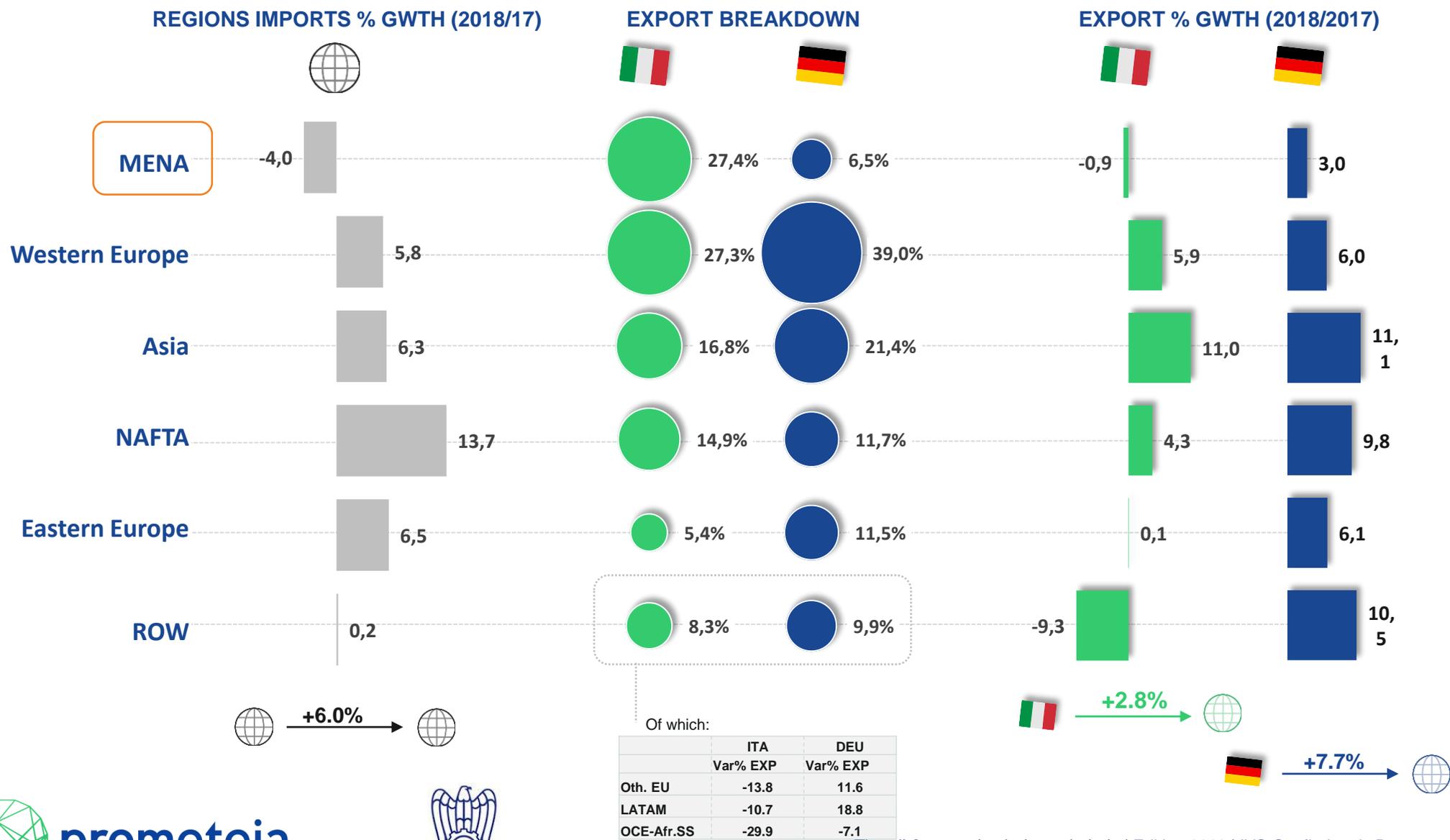


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Italy vs Germany: what's behind the performance gap?

Relative positioning in key-markets explains the differences between the countries

Export breakdown and growth, 2018/'17 (€)



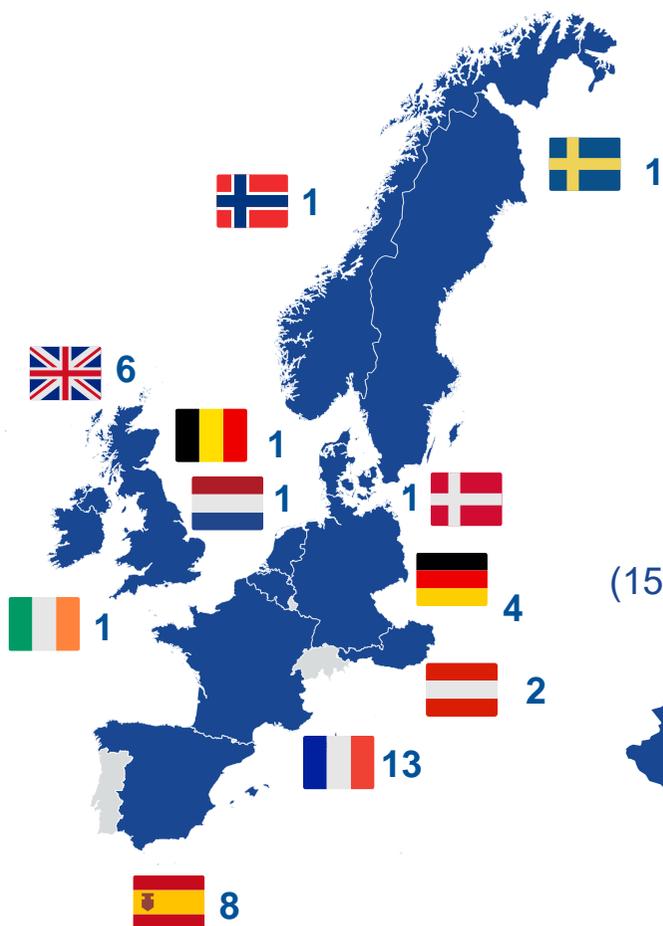
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The sample of companies

149 companies* around the world with a turnover of 7.3 billion Euros

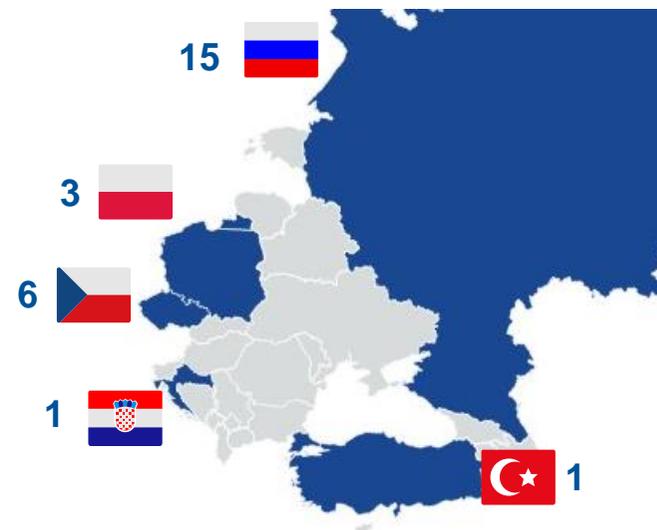
WESTERN EUROPE
(39 companies 1,7 € blns)



ITALY
(50 companies 2,7 € blns)



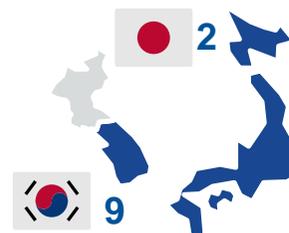
EASTERN EUROPE
(26 companies 0,94 € blns)



CHINA
(15 companies 0,80 € blns)



JAPAN/KOREA
(11 companies 0,49 € blns)



OTHER ASIA
(8 companies 0,71 € blns)

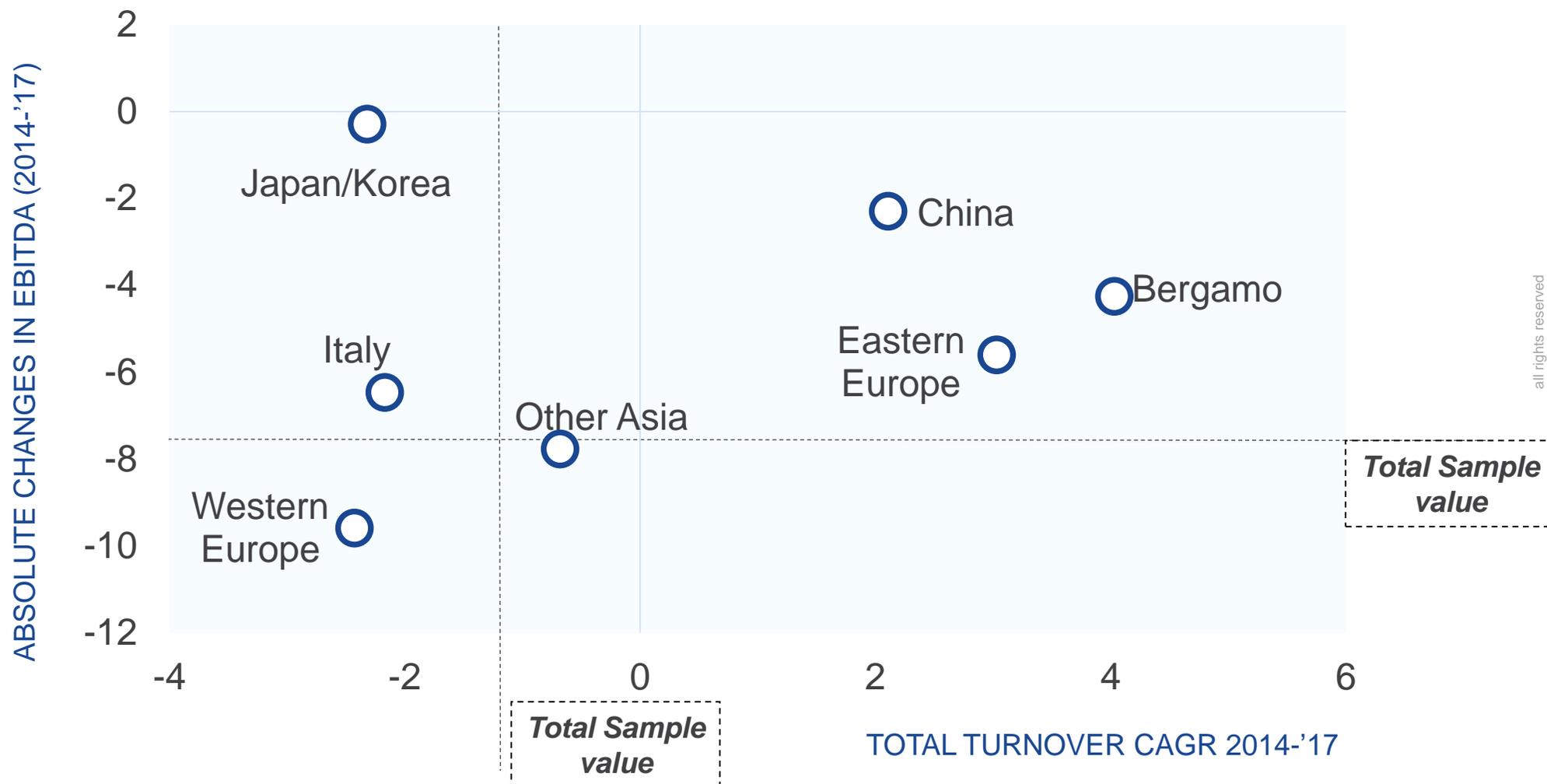


**only the companies with a turnover >5 € mlns; US manufacturers were not included because the balance sheet data are not available*

Performance Overview

Recent years have been challenging for O&G valves companies

Total turnover growth and EBITDA evolution 2014-'17: median value by cluster

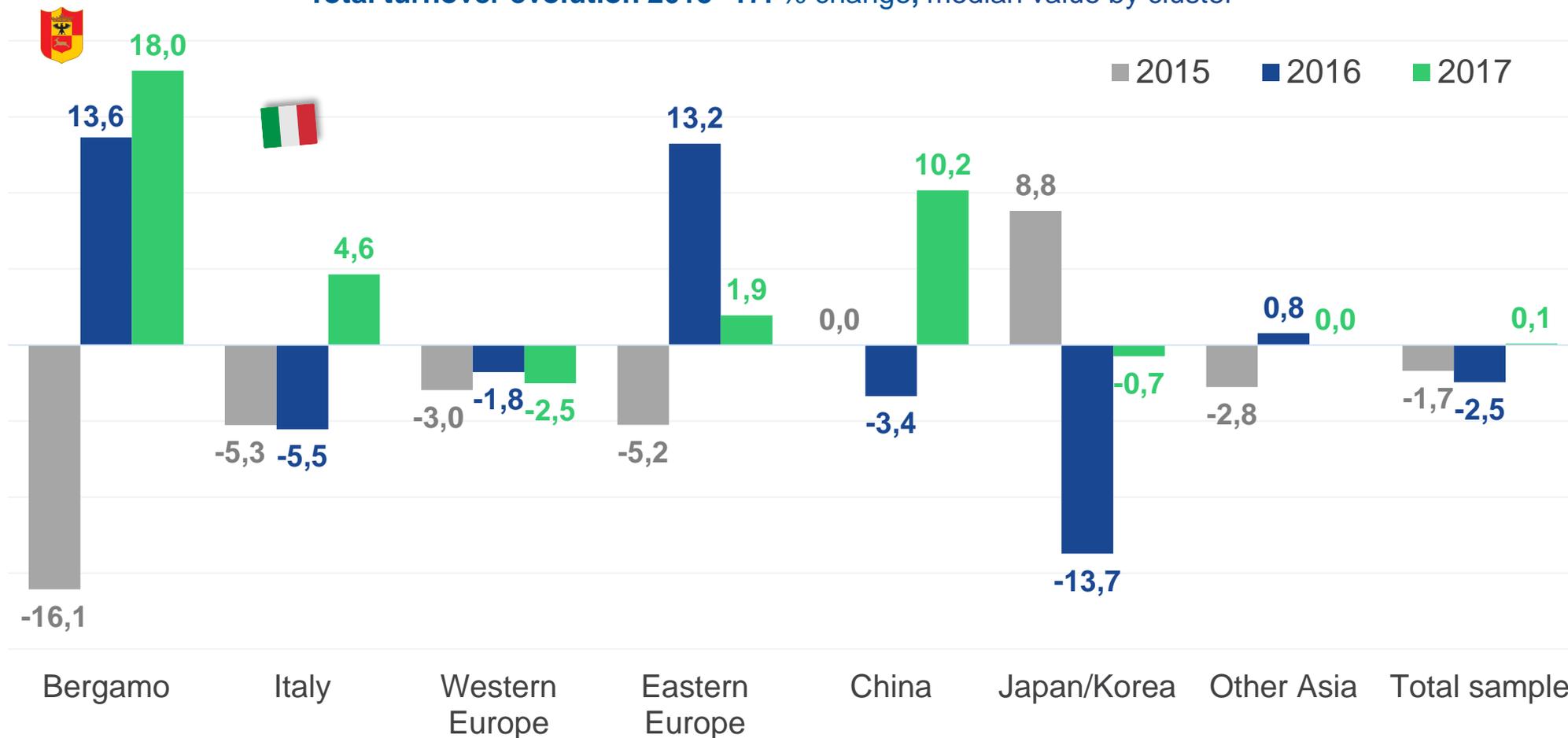


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Turnover: most of the companies recovered well in 2017...

Bergamo runs faster both at national and global level

Total turnover evolution 2015-'17: % change, median value by cluster



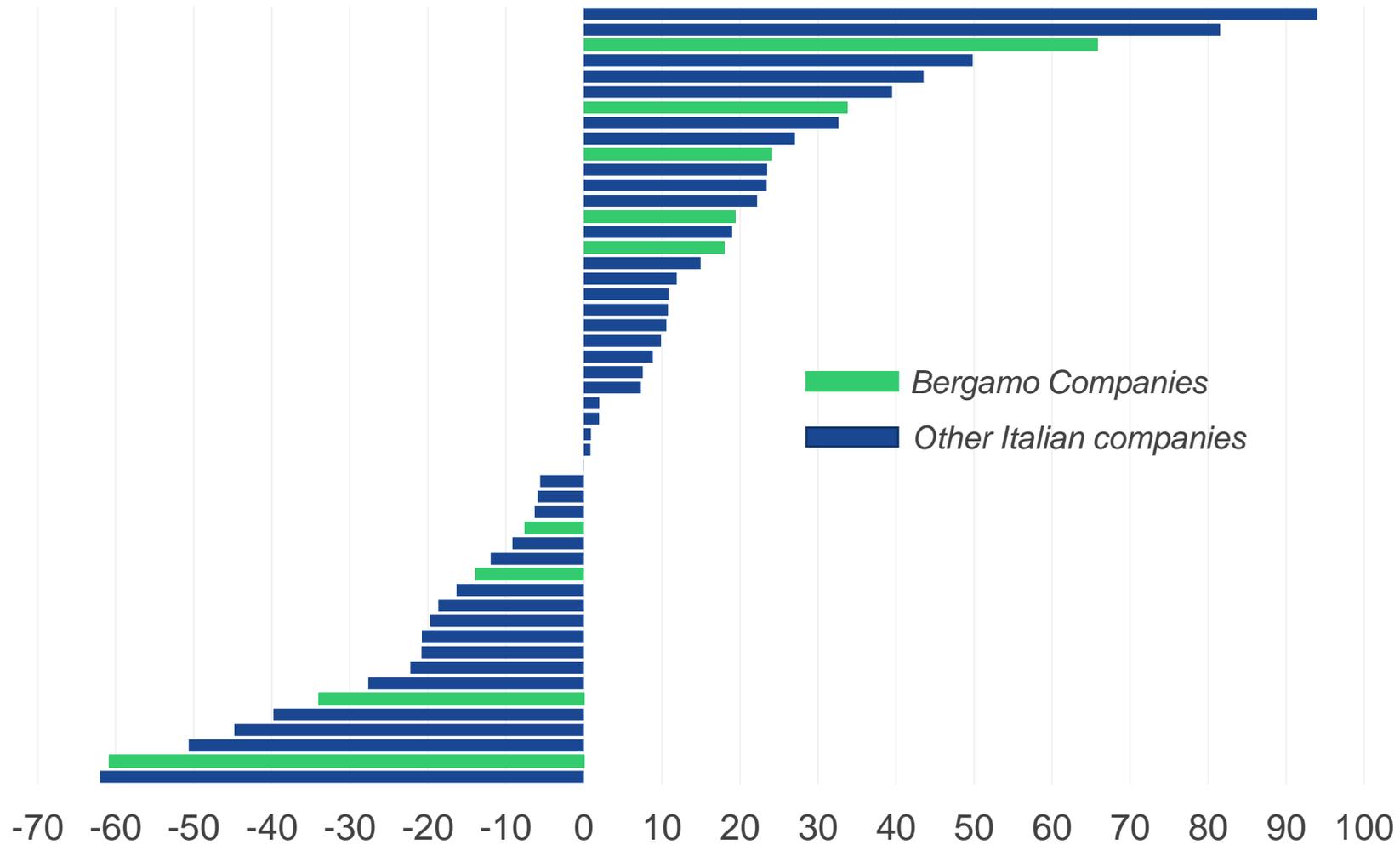
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Source: Prometeia's calculation on balance sheet of a sample of 149 firms for a production value of 7.3 € blns in 2017

...but not all

Turnover data show a high variability in results

Total turnover evolution in 2017: % change, results of the single Italian companies

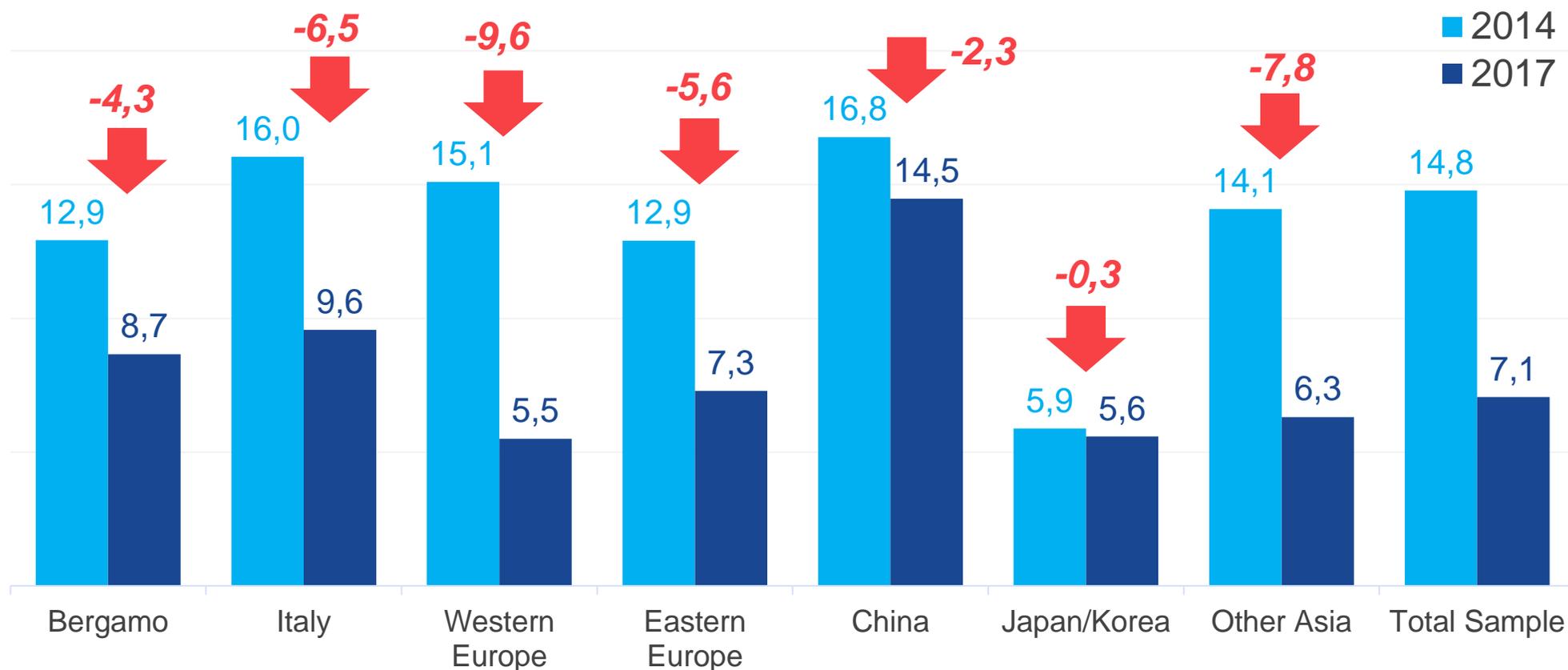


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The industrial profitability

EBITDA experienced a steep drop

Industrial profitability: EBITDA, % share on total turnover, median value by cluster



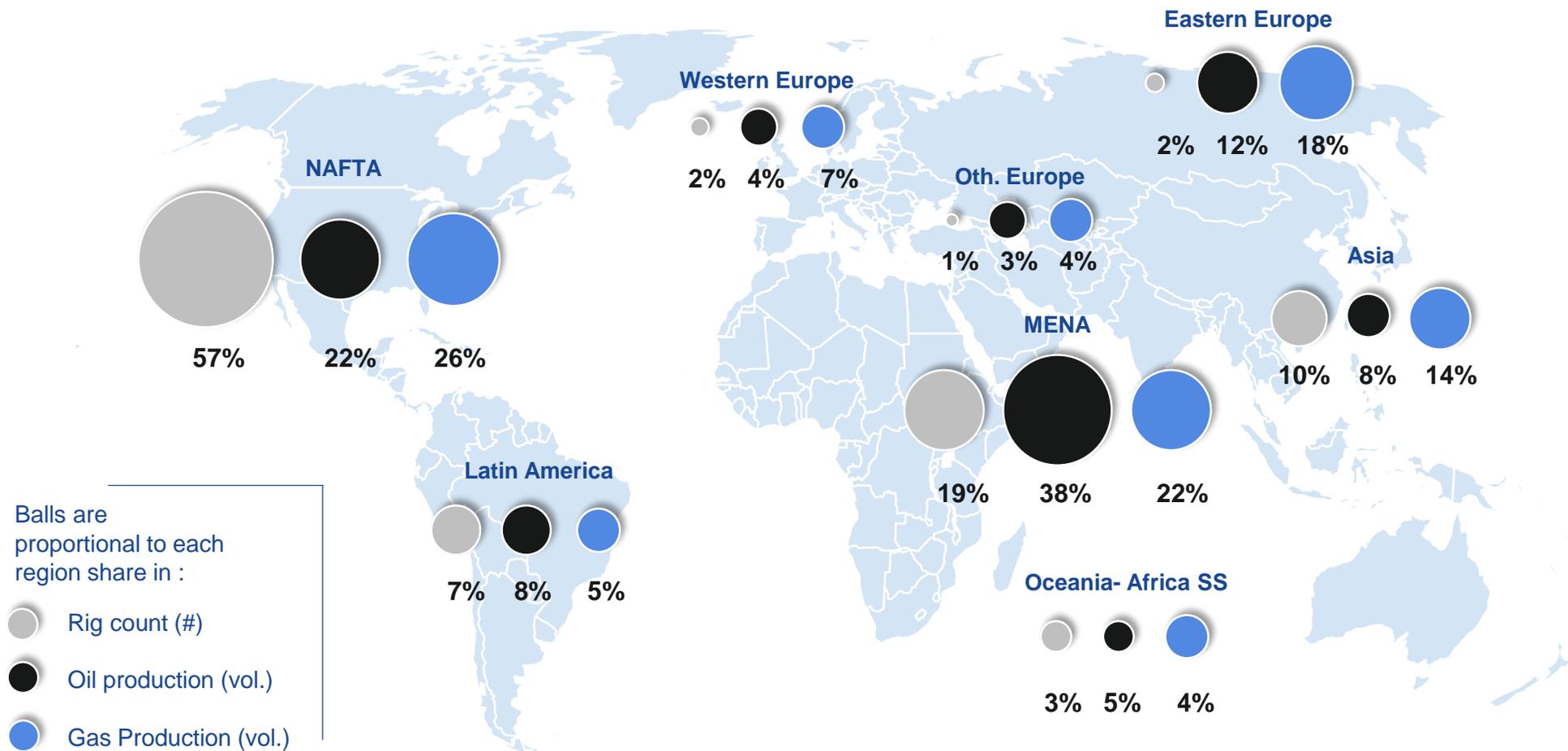
Source: Prometeia's calculation on balance sheet of a sample of 149 firms for a production value of 7.3 € bilns n 2017

The data relating to Bergamo companies differ from those shown on slide 18 because it refers only to companies with turnover >5 € mlns and because it's calculated using the median method and not as a sum

What's behind the fall in margins?

The O&G map of investments

World O&G drilling activity* and hydrocarbons production
Regional breakdown of global rig count and nat. gas / oil production. 2018



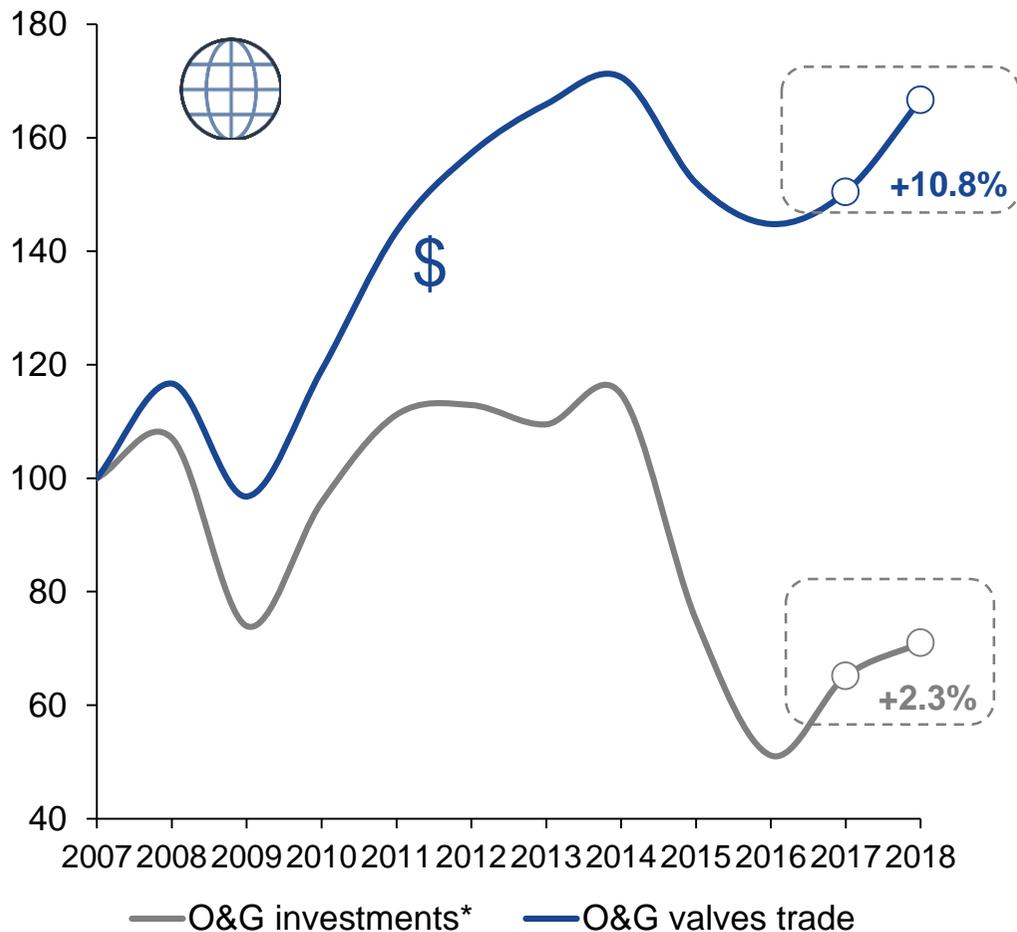
* Census of the number of drilling rigs actively exploring for or developing oil or natural gas basins. Source: Baker Hughes for the rig count number. BP WES and EIA for the O&G production statistics

Even though recovering, O&G global activity levels are still low

Global O&G drilling activity* and valves trade

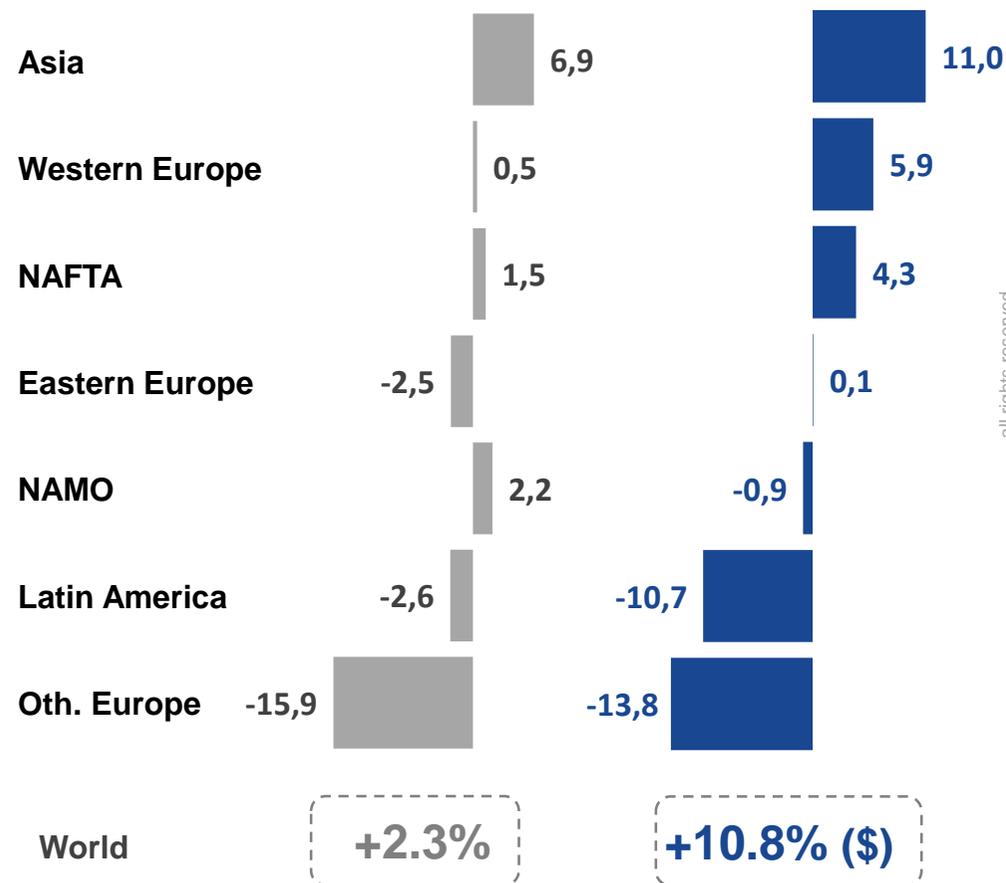
World O&G valves imports and drilling activity*

2007=100, US\$ at curr. prices (trade) and yearly avg (rig count)



World O&G valves imports and drilling activity*

% chg 2018 vs 2017 (selection)

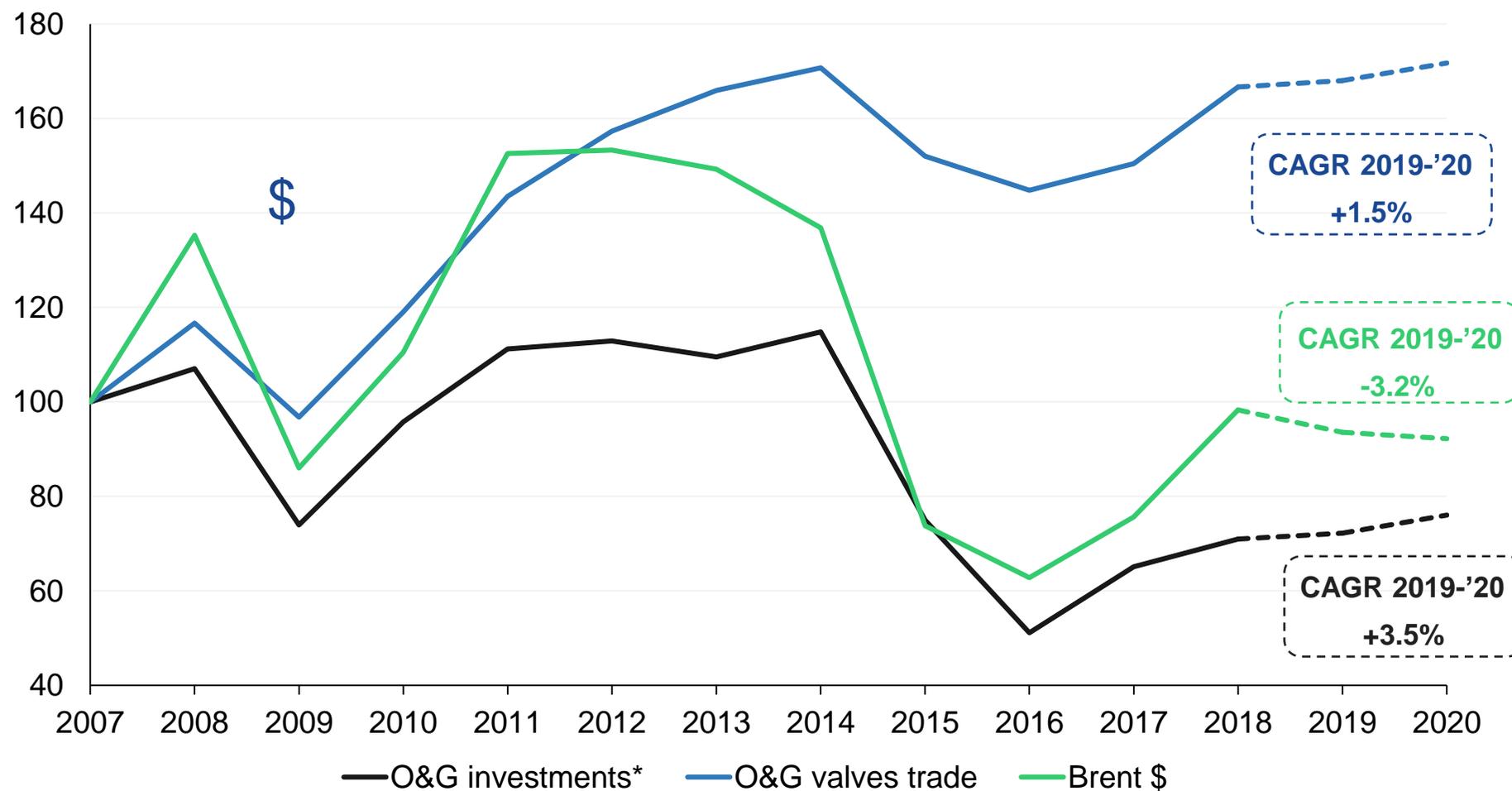


* Census of the number of drilling rigs actively exploring for or developing oil or natural gas basins. Source: Baker Hughes

What's next?

Investment and trade to keep on rising, albeit at a slower pace

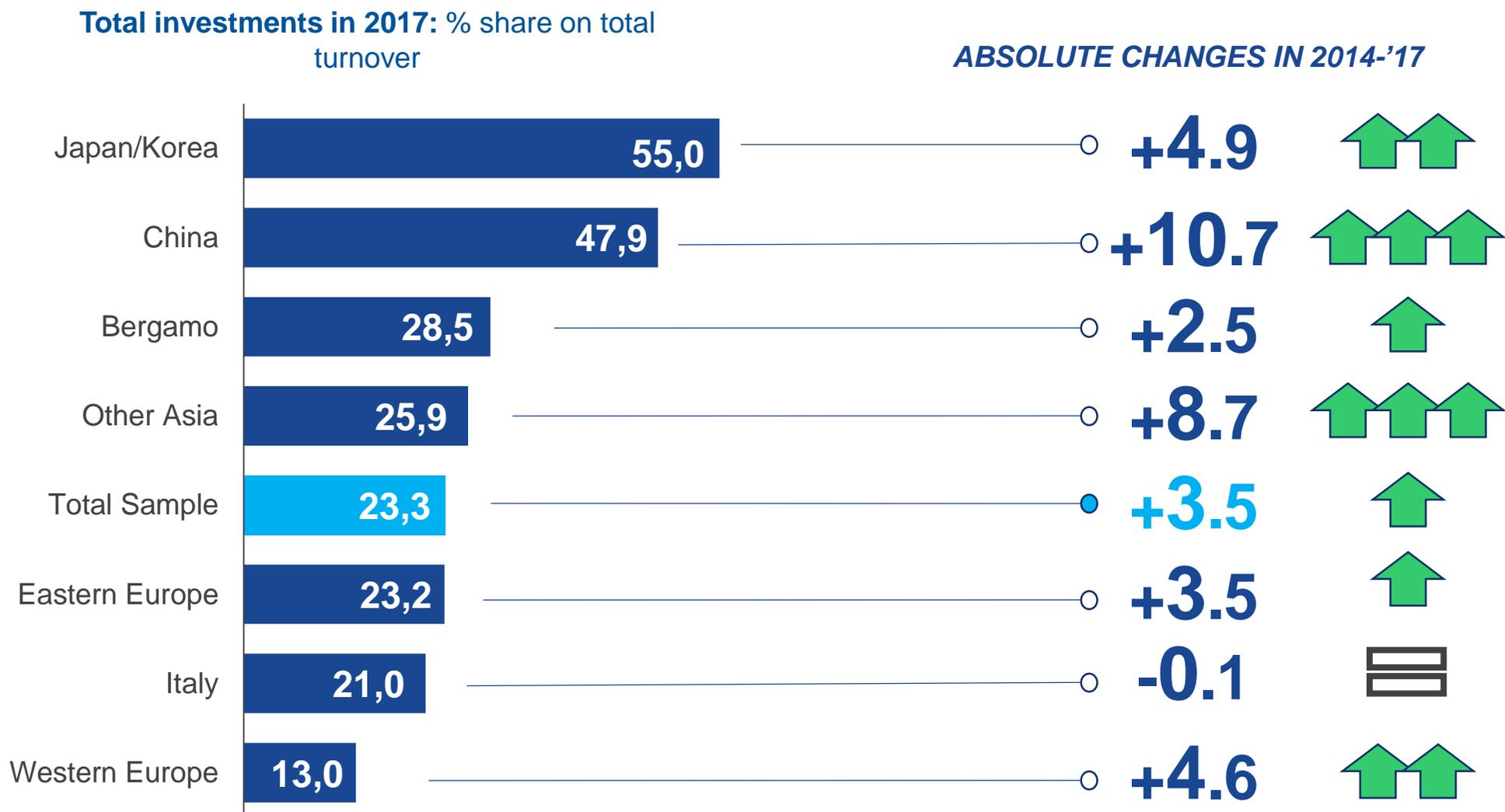
World O&G valves imports, drilling activity and Brent price
2007=100, US\$ at current prices (trade and Brent) and yearly average (rig count)



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Are the Italian companies ready?

Italian propensity to invest stalled in recent years...

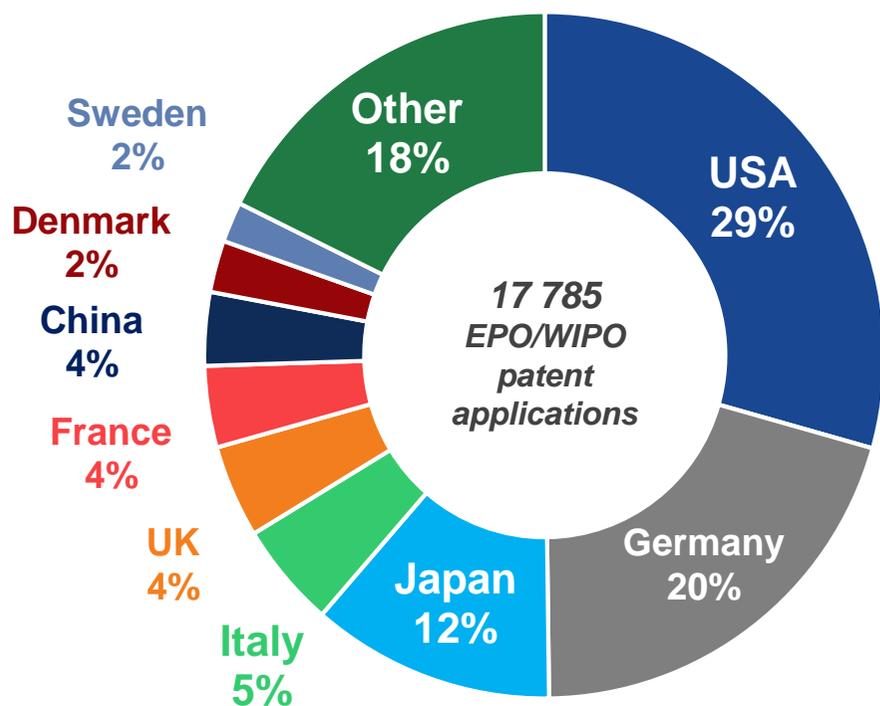


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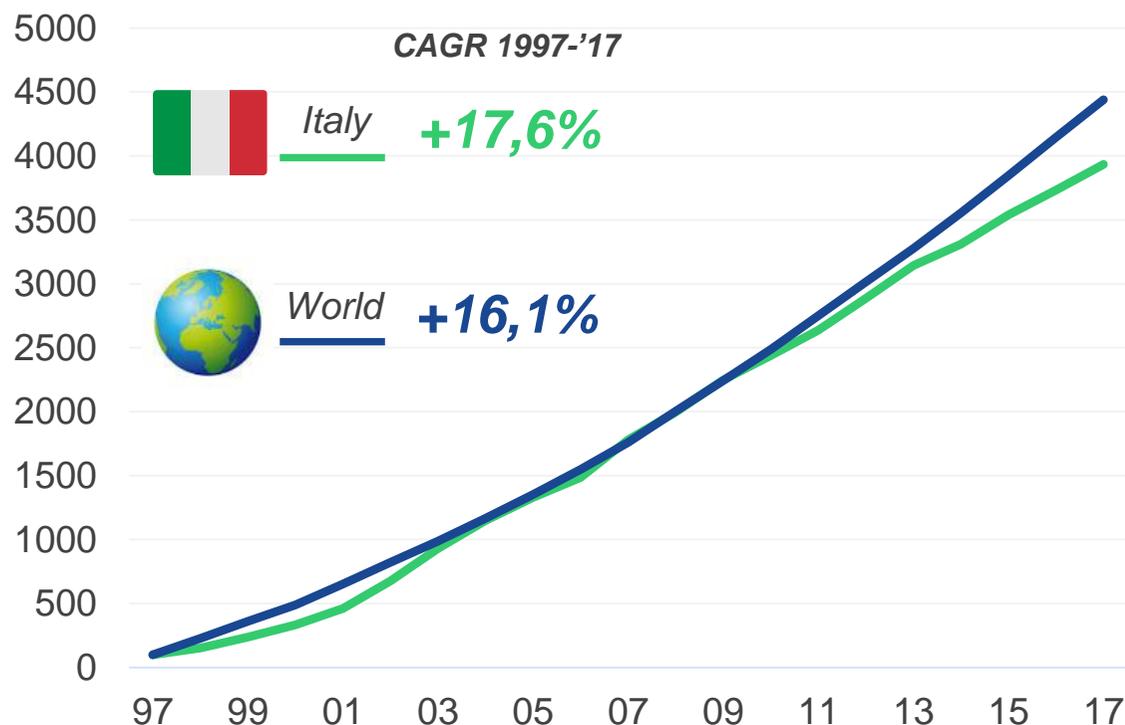
...but much has already been achieved

Italy is fourth in the World valves patent ranking....

Patents related to industrial valves: stock 1997-2017



Patent stock (cumulated) related to industrial valves: 1997=100 index



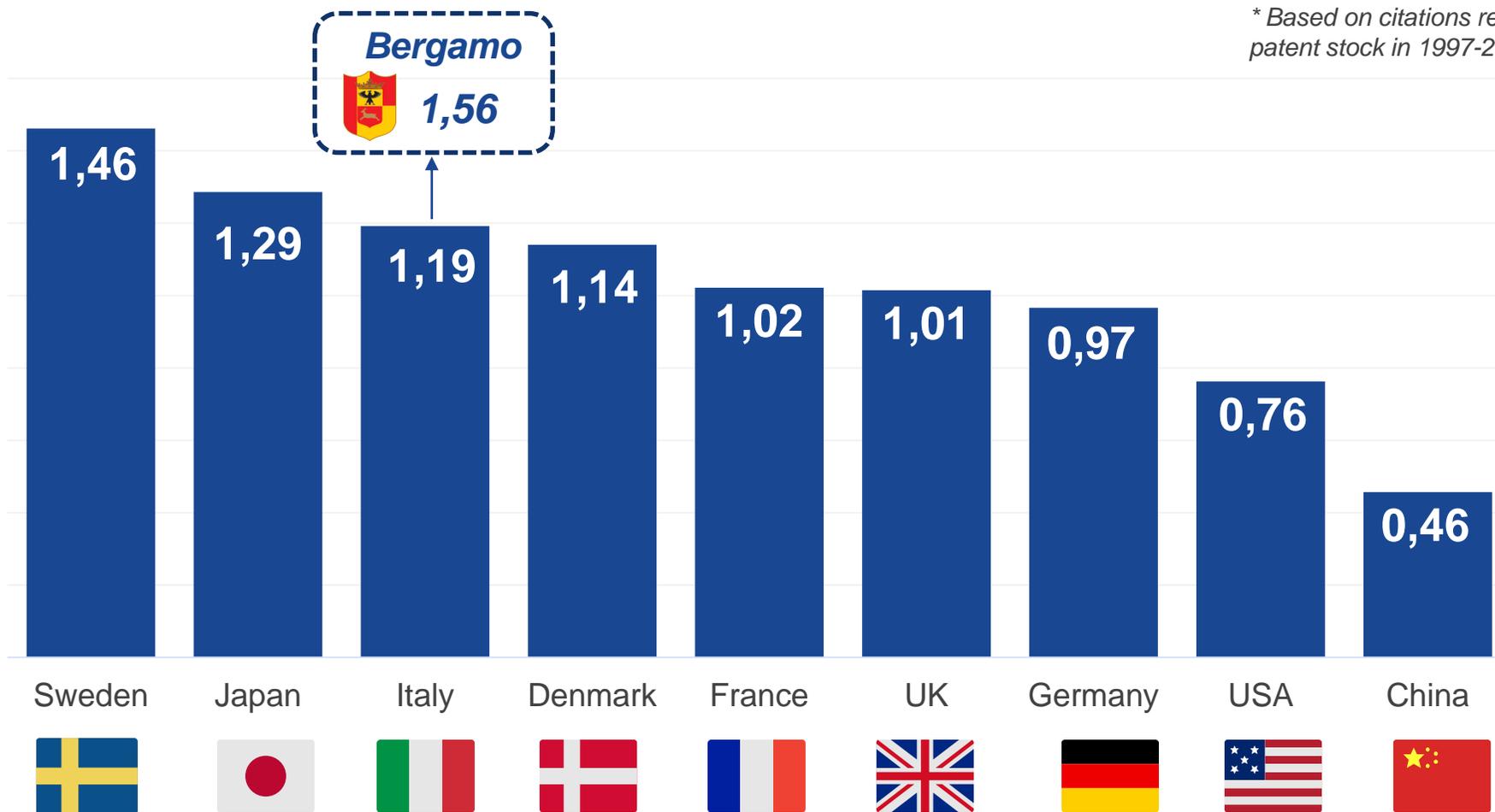
Source: Prometeia's calculation on patent data (EPO and WIPO) related to industrial valves based on International Patent Classification (IPC)

The “quality” of innovation

...and third in terms of citations received by its patent stock

Technological relevance of valve patent stock: Quality Patent Index*

* Based on citations received by patent stock in 1997-2017



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Contacts

Prometeia

Giuseppe Schirone
Manager

giuseppe.schirone@prometeia.com

Mobile 3351436883

Phone 0516480911

Department Strategie Industriali Territoriali

Location Bologna

Federico Ferrari
Senior economist

federico.ferrari@prometeia.com

Mobile 3441434827

Phone 0516480911

Department Strategie Industriali Territoriali

Location Bologna

Giampaolo Morittu
Senior economist

giampaolo.morittu@prometeia.com

Mobile 3442760227

Phone 0516480911

Department Strategie Industriali Territoriali

Location Bologna

Confindustria Bergamo

Massimo Longhi
Resp. Studi e Internazionalizzazione

m.longhi@confindustriabergamo.it

Phone 035275284

Location Bergamo

IVS

Luca Pandolfi
Project Manager

l.pandolfi@confindustriabergamo.it

Phone 035275381

Location Bergamo



Contacts

Bologna

Via Guglielmo Marconi, 43
+39 051 6480911
italy@prometeia.com

Milano

Via Brera, 18
Viale Monza, 265
+39 02 80505845
italy@prometeia.com

Roma

Via Tirso, 26
italy@prometeia.com

Londra

Dashwood House 69 Old Broad Street
EC2M 1QS
+44 (0) 207 786 3525
uk@prometeia.com

Istanbul

River Plaza, Kat 19
Büyükdere Caddesi Bahar Sokak
No. 13, 34394
| Levent | Istanbul | Turkey
+ 90 212 709 02 80 – 81 – 82
turkey@prometeia.com

 Prometeia

 @PrometeiaGroup

 Prometeiagroup

 Prometeia

Il Cairo

Smart Village - Concordia Building,
B2111
Km 28 Cairo Alex Desert Road
6 of October City, Giza
egypt@prometeia.com

Mosca

ul. Ilyinka, 4
Capital Business Center Office 308
+7 (916) 215 0692
russia@prometeia.com

www.prometeia.com